British Columbia Commercial Whaling Catch Data 1908 to 1967: A Detailed Description of the B.C. Historical Whaling Database

L.M. Nichol, E.J.Gregr, R. Flinn, J.K.B. Ford, R. Gurney, L. Michaluk, and A. Peacock

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BRITISH COLUMBIA COMMERCIAL WHALING CATCH DATA 1908 TO 1967: A DETAILED DESCRIPTION OF THE B.C. HISTORICAL WHALING DATABASE

by

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ABSTRACT

Nichol, L.M., E.J. Gregr, R. Flinn, J.K.B. Ford, R. Gurney, L. Michaluk, and A. Peacock. 2002. British Columbia Commercial Whaling Catch Data 1908 to 1967: A Detailed Description of the B.C. Historical Whaling Database. Can. Tech. Rep. Fish. Aquat. Sci. 2371: vi + 77 p.

Commercial whaling from permanent shore stations operated in British Columbia from 1905 to 1967. Valuable biological information about historic populations of large whales in B.C. waters is contained in the records from this period. Although catch records from the years 1905, 1906 and 1907 were not located, those from the years 1908 to 1967 document a catch of 24,427 whales. An intensive effort was made in 1987 to locate, compile, and electronically archive these records. The result was the Historical Whaling Database (HWD) documenting where and when whales were caught along with biological details about these whales. In 1998 more reproductive, morphometric, and stomach contents data were located at the Pacific Biological Station. These data were added to the database as a series of separate but linked tables. Since 1987 the HWD has formed the basis of several reports and projects. Until now there has not been a comprehensive report that describes the database, its codes, its contents, the sources of archival material used and the relevant whaling history. This report should be viewed as a guide to the database and to the data sources used.

RÉSUMÉ

Nichol, L.M., E.J. Gregr, R. Flinn, J.K.B. Ford, R. Gurney, L. Michaluk, and A. Peacock. 2002. British Columbia Commercial Whaling Catch Data 1908 to 1967: A Detailed Description of the B.C. Historical Whaling Database. Can. Tech. Rep. Fish. Aquat. Sci. 2371: vi + 77 p.

La baleine a été chassée à des fins commerciales en Colombie-Britanniq[illegible]de 1905 à 1967 à partir de stations côtières permanentes. Les archives de cette période contiennent des renseignements biologiques précieux sur les populations de grosses baleines présentes par le passé dans les eaux côtières de la province. Bien que les données sur le nombre d'animaux capturés en 1905, 1906 et 1907 n'ont pas été localisées, celles couvrant la période 1908-1967 font état de la capture de 24,427 baleines. Un effort soutenu a été déployé en 1987 pour localiser, compiler et archiver ces données par voie électronique, ce qui a donné une base de données historiques sur la chasse à la baleine documentant où et quand des baleines ont été capturées et donnant des détails biologiques sur ces prises. En 1998, d'autres données sur la reproduction, la morphométrie et les contenus stomacaux ont été localisées à la Station biologique du Pacifique. Elles ont été versées dans la base de données sous forme d'une série de tableaux distincts mais chaînés. Depuis 1987, la base de données a servi de pierre d'angle de plusieurs rapports et projets, mais elle n'a jamais été l'objet d'un rapport exhaustif la décrivant, ainsi que les codes, le contenu, les sources des archives utilisées et l'histoire connexe de la chasse à la baleine. Le présent rapport devrait être considéré comme un guide à la base de données et aux sources de données utilisées.

1.0 INTRODUCTION

Commercial whaling in British Columbia waters spanned the years from 1905 to 1967. Four shore stations operated between 1905 and 1943. After the Second World War, a fifth station opened and operated from 1948 to 1967. The hunt targeted five species of whales; blue whales, fin whales, humpback whales, sei whales, and sperm whales. Right whales, Baird's beaked whales, gray whales and minke whales were also taken occasionally. Catch records are missing for the years 1905, 1906 and 1907, but the records from 1908 to 1967 reveal that 24,427 whales were caught. These records provide valuable biological information about historic populations of whales in B.C. waters.

In the 1980s the International Whaling Commission became interested in the potential value of historical catch records as a means of describing historic populations of whales (Tiilman and Donovan 1983). Several more papers followed, for example, Reeves et al. (1985) and Brueggeman et al. (1985) analysed the catch records from two whaling stations, Port Hobron and Akutan that operated in Alaska between 1912 and 1939.

In 1987, the Canadian Department of Fisheries and Oceans (DFO) and Human Resources and Development Canada supported an eight-month project to locate, compile and electronically archive B.C. whaling catch records.

The project goal was to compile biological data about the historic whale catch. Hence, the project team focussed their efforts on collecting records with details about species caught, location of captures, dates when caught and number of whales caught. Less attention was given to social or economic information, such as the cost of operating a station, of boats, of labour, or the price of whale products.

DFO has a large amount of catch data from the Coal Harbour whaling station (1948 to 1967), that had been in the files of the late Gordon Pike, the biologist responsible for monitoring the whaling at Coal Harbour. The search for data also led to the B.C. Archives, the Vancouver Archives, the Manuscripts Division of the Suzzallo Library at the University of Washington, the International Whaling Commission (IWC) in England, and to private citizens. The type of material located included ship logbooks, company catch and production records, company telegrams, whale specimen measurement cards, annotated hydrographic charts and published accounts in the reports of the IWC.

By the end of the project term in 1987, the Historical Whaling Database (HWD) had been created with data on 24,427 whales caught between 1908 and 1967. The HWD data includes dates, locations, species, sex, length and a variety of reproductive, diet and morphometric measures, although the level of detail varies considerable over this period (See Section 3.0). The database was originally developed as a series of related files in dBase III+ in 1987 but has now been converted to an MS Access database.

In 1998 the remainder of Gordon Pike's files were returned to the Pacific Biological Station from DFO offices in eastern Canada where Gordon Pike had finished his career. Among these files were additional detailed reproductive, morphometric, and diet data from a portion of the Coal Harbour catch - whales already documented in the HWD. Between 1999 and 2000 the new data were added to the HWD as a series of separate but linked tables.

This report is a comprehensive description of the contents and structure of the database. Since 1987, there has been considerable interest in this database, and its contents have formed

the basis of several projects and reports. (Nichol and Heise 1992; Flinn 2000; Gregr and Trites 2001; Gregr et al. 2000: Gregr 2000). Until this report users of the HWD have not had the benefit of a guide describing the database, the historical data and the sources.

2.0 COMMERCIAL WHALING IN BRITISH COLUMBIA

The following historical account is derived largely from Webb (1988) unless referenced otherwise.

Commercial whaling from permanent shore-based stations in B.C. began in 1905 and continued until 1967 and it is the records from this period that are in the HWD. Prior to 1905, however, there had been commercial whaling in the North Pacific and in B.C. coastal waters.

In the 1800's whalers in sailing ships came from California and the Hawaiian Islands to hunt in the North Pacific. With only slow moving sail-powered ships, handheld harpoons and no means of quickly removing a carcass from the sea before it sank, these whalers were restricted to hunting right whales and sperm whales. By the 1850's the right whale was near extinction in the North Pacific and the whalers moved on to hunt the Bowhead whale in Arctic waters.

Newspaper accounts in the Victoria paper, the *British Colonist*, from the 1860's and 1870's describe commercial whaling for humpback whales in the Strait of Georgia and Queen Charlotte Strait between 1866 and 1873. From a review of archived newspaper articles compiled by Bill Merilees, at least 95 humpbacks were killed between 1866 and 1873(L.N.). Carcasses were towed to shore where the blubber was rendered to oil. B.C. coast names such as Whaling Station Bay on Hornby Island, Blubber Bay on Texada Island and Whaletown on Cortes Island are reminders of this historical period (Merilees 1985).

Aside from this brief period of humpback whaling, there was little interest in whaling in B.C., perhaps because of the lucrative pelagic fur seal hunt. However, by the early 1900's the fur seal population had plummeted and in 1911 an international agreement was signed that brought an end to all types of commercial sealing in the North Pacific.

COMMERCIAL WHALING 1905 TO 1943

In 1905 two former sealing captains, Captain Sprott Balcom and Captain William Grant established the Pacific Whaling Company in Victoria, B.C. Since the 1870s' Norwegians had made significant technological advances in whaling equipment. The harpoon was now fired from a cannon, and was equipped with an exploding grenade head and a ring of multiple barbs that opened inside the whale upon detonation. The newly developed steam-powered engine, allowed whaling vessels to travel fast enough to keep up with the previously unattainable rorqual whales and the steam-powered winch resolved the problem of sinking carcasses.

The Pacific Whaling Company opened their first whaling station at Sechart, in Barkley Sound, Vancouver Island in 1905. A chaser boat, the *Orion* was brought from Norway. Balcom and Grant bought a second steam chaser from the Norwegians, the *St. Lawrence*, and opened a second station at Kyuquot on Vancouver Island in 1907. A third station was opened in the fall of 1907, at Page's Lagoon near Nanaimo At Page's Lagoon, the catch was of humpback whales that wintered in the Strait of Georgia (Merilees 1985). Whaling from Page's Lagoon ceased in 1909.

In 1908, the Pacific Whaling Company acquired permission from the Dominion government to build two stations, one on Kunghit Island in the Queen Charlotte Islands and one on Dundas Island. The Dundas Island station was never built, but in 1910 a station was opened at Rose Harbour on Kunghit Island. In 1911 a fifth station was opened in Naden Harbour, Queen Charlotte Islands. By 1911, the Pacific Whaling Company had four whaling stations in operation, Sechart, Kyuquot, Rose Harbour and Naden Harbour and 10 chaser boats (Figure 1).

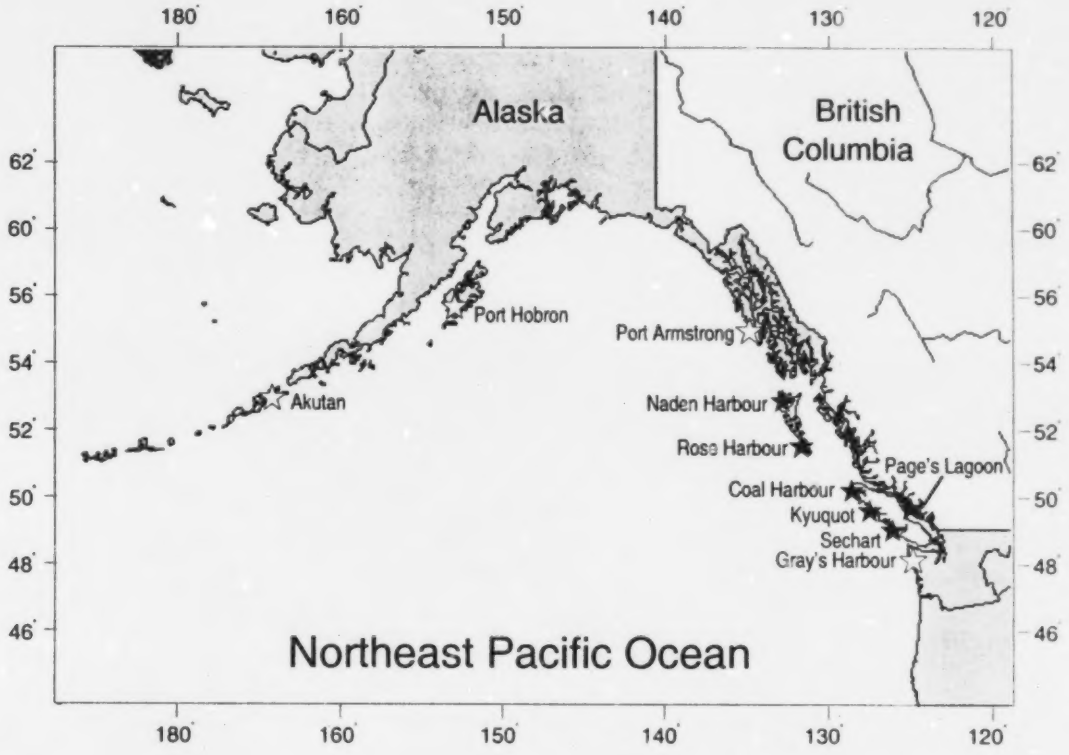

Figure 1. Locations of coastal whaling stations (1905 to 1967) in the Northeast Pacific Ocean. The B.C. Stations included in this study are shown in black. The Amercian stations that operated during the same period are shown in white.

Rose Harbour and Naden Harbour were managed by caucasians, and staffed by Japanese and Chinese workers. The Japanese were skilled at flensing whales, while the Chinese workers tended the rendering tanks (Goddard 1998).

The whaling season started in the spring between late March and early May and continued until October, although in some years the season ended earlier (see Tables 1 to 4). The number of chasers operating varied annually. Often within a season boats were moved around from one station to another.

Between 1908 and 1914, the B.C. catch was quite large, but was followed by a noticeable decline in the years immediately following. The Pacific Whaling Company, now called the Canadian North Pacific Fisheries was forced into receivership. In 1915 an American, William P. Schupp, who owned Port Hobran and Akutan stations in Alaska and Gray's Harbour station (also known as Bay City station) in Washington, bought the company. Schupp closed the Sechart station in 1918 and sold two of the chasers. The newly amalgamated company was named Consolidated Whaling Corporations Ltd.

By developing new markets for whale oil, Consolidated Whaling was successful for several years, despite declining whale stocks. With the First World War came increased demand for whale products. Sperm whale oil, traditionally used as an illuminate, was highly sought after for use in the production of nitro-glycerine for explosives. Other uses of whale by-products included bone meal fertilizers for the domestic farm market, glue, margarine, animal fodder, lipsticks, perfumes, crayons, and stringing for tennis racquets. In later years it would also be used in the production of vitamins and insulin. The introduction of whale oil as an ingredient in cosmetics was due to the development of a new hydrogenation technique, which removed the fishy odour from the oil.

A recession in the early 1920's, combined with a glut of whale oil on the world market from the Antarctic, led to the closure of the three remaining B.C. whaling stations for the 1921 season. Naden Harbour re-opened in 1922, and Rose Harbour was re-opened in 1923. Kyuquot re-opened in 1922, but was closed permanently in 1925.

In 1925, the stern slipway was developed enabling whalers to haul entire carcasses aboard a ship and process them at seas. Factory ships could now hunt on the high seas, where the regulations of a coastal nation had no jurisdiction (Morgan 1978).

As well as competition for the whale resource from pelagic operations, the depression forced the temporary closure of Rose Harbour and Naden Harbour in the early 1930s. When the stations reopened, wages were cut by fifty percent, and efforts to maintain and repair equipment were minimal. Profits declined and in the following years frequently one or both of the stations were closed.

The Second World War presented further problems to the industry. Wartime regulations prohibited civilian use of marine radios. Without this form of communication, the function and success of the hunt was almost certainly impeded. Even more serious was the loss of the skilled Japanese flensing crews to wartime internment camps in early 1942. In 1941 Naden Harbour station closed permanently. Rose Harbour closed at the end of the 1943 season. The chaser boats, now 30 years old and in severe disrepair, were sold at auction. Four of the five boats went for scrap metal. Table 5 lists the boats. During the 36 years between 1908 and 1943, 14,065 whales had been killed (Tables 6 to 9). The regulations controlling the industry during these 35 years of whaling are discussed in the next section.

Table 1. Whaling season and vessels operating annually at Kyuquot.

Year	Season*	# of boats	Boat names[1]
1908	Mar. – Oct.	1	SL
1909	Mar. – Oct.	?	unknown
1910	Apr. – Oct.	2	unknown
1911	Mar. – Oct.	2	unknown
1912	Mar. – Oct.	2 in May to July, 3 in Aug. to Oct.	SL, WH, SB
1913	Apr. – Oct.	2 in April, May, 3 in June, July, 4 in Aug. to Oct.	GR, OR, SB, WH
1914	Apr. – Sept.	5 in April, May, 6 in June, July, 7 in Sept., Oct.	BK, BR, GT, GR, SB, SL, WH
1915	July – Oct.	3	BK, BR, GR
1916	May – Oct.	4	BK, BR, GR, SL
1917	Apr. – Oct.	4	BK, BL, GR, SL
1918	Apr. – Oct.	3	BK, SL, WH
1919	May – Oct.	3	BK, SL, WH
1920	Apr. – Oct.	?	unknown
1921	*station closed*		
1922	June – Sept.	?	unknown
1923	May – Oct.	?	unknown
1924	May – Sept.	3	GR, OR, SL
1925	May – Aug.	3	GR, OR, SL

*Month – Month assumes 1st of first month to last day of last month, unless dates are given. Note: boats were moved around among stations during the whaling season.
[1] BK=SS Black, BL=SS Blue, BR=SS Brown, GE=SS Germania, GT=SS Grant, GY=SS Gray, GR=SS Green, OR=SS Orion, SB=SS Sebastian, SL=SS St. Lawrence, WH=SS White.
Source: reference sources 94 and 98 and 73. See Section 8.0 for a description of these sources.

Table 2. Whaling season and vessels operating annually at Naden Harbour.

Year	Season*	# of boats	Boat names[1]
1911	Apr. 11 - Nov. 7	?	unknown
1912	Mar. 28 - Oct. 19	?	unknown
1913	Apr. 13 - Sept. 19	2 in April to July, 3 in Aug. to Sept.	BK, BL, WH
1914	Apr. 17 - Oct. 11	2	BL, WH
1915	July 7 - Sept. 24	3	BL, GT, WH
1916	Apr. 30 - Sept. 30	2[2]	BL, GT, WH
1917	*station closed*		
1918	Apr. 26 - Oct. 4	2	BL, GT
1919	May 7 - Oct. 24	2	BL, GT
1920	Apr. 25 - Oct. 26	2 in April to Aug., 3 in Sept. to Oct.	BK, BL, GT
1921	*station closed*		
1922	June 5 - Oct. 23	2 in June to Sept., 3 in Sept. to Oct.	BK, GT, WH
1923	April 29 - Oct. 20	2	BL, GT
1924	May 29 - Oct. 1	2	BL, GT
1925	May 24 - Oct. 2	2	BL, GT
1926	May 31 - Oct. 6	2	BL, GT
1927	June 14 - Oct. 9	3	BL, GT, GR
1928	June 10 - Oct. 3	?	unknown
1929	May 27 - Oct. 8	1+	GR
1930	June 7 - Aug. 21	2	GT, GR
1931	*station closed*		
1932	*station closed*		
1933	*station closed*		
1934	May 20 - Sept. 4	3	Unknown
1935	station closed		
1936	May 3 - Sept. 19	3	BK, BR, GR
1937	May 20 - Sept. 14	3	BK, BR, GR
1938	Apr. 19 - Sept. 12	3	BK, BR, GR
1939	*station closed*		
1940	*station closed*		
1941	May 24 - Sept. 13	3	BK, BR, GR

*Month – Month assumes 1st of first month to last day of last month, unless dates are given.
[1] BK=SS Black, BL=SS Blue, BR=SS Brown, GE=SS Germania, GT=SS Grant, GY=SS Gray, GR=SS Green, OR=SS Orion, SB=SS Sebastian, SL=SS St. Lawrence, WH=SS White
[2] The S.S. White arrived June 6th to replace the S.S. Grant. Note: boats were moved around among stations during the whaling season.
Source: reference source 94 and 98 and 73. See Section 8.0 for a description of these sources.

Table 3. Whaling season and vessels operating annually at Rose Harbour.

Year	Season*	# of boats	Boat names[1]
1910	July 23- Nov. 30	?	unknown
1911	Mar. 15- Oct. 9	?	unknown
1912	Mar. 26- Oct. 16	?	unknown
1913	Apr. 13- Sept. 30	2- 4	BR, GE, GT, GR
1914	May 21- Oct. 3	1- 3	GT, SB, GE
1915	*station closed*		
1916	June 9- Oct. 17	3	BR, GT, OR
1917	May 1- Oct. 12	3	BL, GT, OR
1918	Apr. 1- Aug. 31	3	BR, GR, OR
1919	Apr. 30- Oct. 25	3	BR, GR, OR
1920	Apr. 23- Oct. 25	?	unknown
1921	*station closed*		
1922	*station closed*		
1923	May 6- Nov. 3	?	unknown
1924	May 30- Oct. 2	4	BK, GY, WH, BR
1925	May 19- Oct. 2	4	BK, BL, BR, WH
1926	May 23- Oct. 6	5	BK, BL, BR, GR, WH
1927	May 16- Sept. 30	4	BK, BL, BR, WH
1928	May 22- Oct. 1	4	BK, BL, BR, WH
1929	May 13- Sept. 28	?	unknown
1930	May 14- Aug. 22	2	BR, WH
1931	*station closed*		
1932	*station closed*		
1933	June 5- Aug. 14	4	BR, GT, GR, WH
1934	Apr. 25- Aug. 31	4	BR, GR, WH
1935	May 8- Sept. 21	4	BL, BR, GT, WH
1936	Apr. 22- Sept. 19	3	BL, GT, WH
1937	Apr. 26- Sept. 13	3	BL, GT, WH
1938	Apr. 12- Aug. 18	3	BL, GT, WH
1939	*station closed*		
1940	May 13- Aug. 31	3	BL, GT, WH
1941	May 16- Oct. 18	3	BL, GT, WH
1942	May 25- Sept. 21	3	BL, GT, WH
1943	July 22- Oct. 7	2	BL, BR

*Month – Month assumes 1st of first month to last day of last month, unless dates are given. Note: boats were moved around among stations during the whaling season.

[1] BK=SS Black, BL=SS Blue, BR=SS Brown, GE=SS Germania, GT=SS Grant, GY=SS Gray, GR=SS Green, OR=SS Orion, SB=SS Sebastian, SL=SS St. Lawrence, WH=SS White

Source: reference source 94 and 98. See Section 8.0 for a description of these sources.

Table 4. Whaling season and vessels operating annually at Sechart.

Year	Season*	# of boats	Boat names[1]
1905	*no data*		
1906	*no data*		
1907	*no data*		
1908	Feb. – Oct.	?	unknown
1909	Mar. – Dec.	?	unknown
1910	Jan. – Oct.	?	unknown
1911	Mar. – Oct.	?	unknown
1912	Mar – Oct.	?	unknown
1913	Apr. 3 – Sept.	2 in April, 3 in May, Aug., Sept, 4 in June	OR, SL, BR, GE
1914	Apr. – Sept.	2[2]	OR, SL, BR, GE
1915	*station closed*		
1916	*station closed*		
1917	April 29 – Oct 16.	2	WH, BR

*Month – Month assumes 1st of first month to last day of last month, unless dates are given.
[1] BK=SS Black, BL=SS Blue, BR=SS Brown, GE=SS Germania, GT=SS Grant, GY=SS Gray, GR=SS Green, OR=SS Orion, SB=SS Sebastian, SL=SS St. Lawrence, WH=SS White
[2] It appears that of the four boats operating, only two operated at a time. Note: boats were moved around among stations during the whaling season.
Source: reference source 73. See Section 8.0 for a description of these sources.

Table 5. Whaling fleet and specifications (1905 to 1943).

Ship name	Code	HP	Tonnage
S.S. Black	BK	46	102
S.S. Blue	BL	46	102
S.S. Brown	BR	46	102
S.S. Germania	GE	50	106
S.S. Grant	GT	46	102
S.S. Gray	GY	90	707
S.S. Green	GR	46	102
S.S. Orion	OR	42	109
S.S. Sebastian	SB	?	?
S.S. St. Lawrence	SL	50	111
S.S. White	WH	46	102

Source: William S. Lagen Collection Suzzallo Library, University of Washington

Table 6. Kyuquot annual catch by species.

Year	Species[1]						
	BBW	BW	FW	HW	SPW	SW	Total
1908		66	10	242	1		**319**
1909		47	3	262	1		**313**
1910		65	16	273	31		**385**
1911		86	14	293	23		**416**
1912		62	73	151	11		**297**
1913		5	63	136	7		**211**
1914		23	142	57	12		**234**
1915	1	12	67	56	1		**137**
1916	1	5	88	64	11	7	**176**
1917		5	53	43	11	70	**182**
1918		4	88	41	12	101	**246**
1919	4	5	96	36	7	18	**166**
1920		1	28	22	14	81	**146**
1922			37	22	31	2	**92**
1923	2	5	53	32	32	14	**138**
1924		17	38	19	18	49	**141**
1925	1		33	8	3	35	**80**
Total	**9**	**408**	**902**	**1756**	**227**	**377**	**3679**

Table 7. Naden Harbour annual catch by species.

Year	Species[1]							
	BBW	BW	FW	HW	RW	SPW	SW	Total
1911		38	208	178				**424**
1912		53	187	99		1		**340**
1913		8	73	27		4		**112**
1914		29	88	24	1	2		**144**
1915		5	64	23				**92**
1916		6	82	18		1		**107**
1918		15	57	23		5	14	**114**
1919		24	57	18		7	5	**111**
1920		13	54	72		7	42	**188**
1922		4	57	27		7		**95**
1923		31	37	25		24	3	**120**
1924		13	41	3	2	11	2	**72**
1925		16	43	9		22	3	**93**
1926		3	33	4	1	16	1	**58**
1927		6	66	4		17		**93**
1928		27	26	4		19	2	**78**
1929		9	43	4		50	9	**115**
1930		10	7	2		48	8	**75**
1934			41	5		88		**134**
1936		2	35	5		113		**155**
1937		1	24	2		112		**139**
1938		4	15	1		117		**137**
1941		1	25	2		59		**87**
Total		**318**	**1363**	**579**	**4**	**730**	**89**	**3083**

[1] BBW=Baird's beaked whale, BW = blue whale, FW = fin whale, HW = humpback whale, RW = right whale, SPW = sperm whale, SW = sei whale

Table 8. Rose Harbour annual catch by species.

Year	Species[1]							Total
	BBW	BW	FW	HW	RW	SPW	SW	
1910		31	36	79				**146**
1911		58	94	148		10		**310**
1912		40	92	54		2		**188**
1913		20	49	38				**107**
1914		22	52	19		7		**100**
1916		7	90	22		2		**121**
1917		14	39	14		12	27	**106**
1918	1	12	69	25	1	17	15	**140**
1919		8	64	11		21	51	**155**
1920	1	12	66	4		35	41	**159**
1923		26	75	21		38	37	**197**
1924	1	26	46	25	1	52	50	**201**
1925	2	13	57	23		51	30	**176**
1926		11	90	20		64	25	**210**
1927		3	72	17		65	7	**164**
1928	1	22	114	17		64	11	**229**
1929		7	125	6	1	96	58	**293**
1930			46	10		40	80	**176**
1933		1	17			174		**192**
1934			29	8		164		**201**
1935		5	25	1		175		**206**
1936		1	13	9		198		**221**
1937			20	5		153		**178**
1938			35	3		135		**173**
1940		1	92	1		120		**214**
1941			60	7		174		**241**
1942		1	16	16		130		**163**
1943			17	5		69		**91**
total	**6**	**341**	**1600**	**608**	**3**	**2068**	**432**	**5058**

Table 9. Sechart annual catch by species.

Year	Species[1]							Total
	BBW	BW	FW	GW	HW	SPW	SW	
1905	*No data*							
1906	*No data*							
1907	*No data*							
1908		32	16		201	1		**250**
1909		14	10		335			**359**
1910		15	23		389			**427**
1911		21	48	1	403	1		**474**
1912		12	43		224	5		**284**
1913		5	30		236	4		**275**
1914		8	40		34	4		**86**
1917	1		12		48		29	**90**
total	**1**	**107**	**222**	**1**	**1870**	**15**	**29**	**2245**

[1] BBW=Baird's beaked whale, BW = blue whale, FW = fin whale, HW = humpback whale, RW = right whale, SPW = sperm whale, SW = sei whale

WHALING REGULATIONS IN CANADIAN WATERS 1905 TO 1931

As early as 1904, the Canadian government imposed a 50-mile minimum distance between shore stations and/or settlements and allowed only one catcher boat per station on the West Coast. These regulations were implemented in an attempt to protect the new west coast industry from its own demise and were based on the experience in Newfoundland, where no limits had been placed on the number of companies or boats allowed to operate. There the shore based whaling industry had almost completely collapsed by 1904 as a result of over harvesting after only six years. In 1906 the minimum distance between stations was extended to 100 miles, but the one chaser boat per station limit was abandoned in 1910. Whales were also to be processed within 24 hours of capture.

WHALING REGULATIONS IN CANADIAN WATERS 1931 TO 1936

The first International Whaling Convention was drafted and signed at a meeting of the League of Nations in Geneva in September of 1931. The intent was to regulate and supervise whaling around the world, based on regulations for Norwegian whaling operations established in 1929. The new convention required each nation to provide catch statistics such as date, location of capture, species, sex, length, presence of foetus, and stomach contents where practical to collect. They were also to report on the amount of oil and fertilizer produced. These statistics would be forwarded annually to the Bureau of International Whaling Statistics in Norway. Furthermore, bonuses paid to the whaling crew were no longer to be paid according to the number of whales caught, but rather according to size and species, although there were no minimum length limits set in the convention. In response to the International Whaling Convention the Canadian government required that bonuses be paid according to the length of a whale, presumably to encourage the take of larger whales. The convention also gave full protection in 1933 to the right whale, commercially extinct in the North Pacific since 1900. Six right whales were caught in B.C. between 1908 and 1933 and one in 1951.

If catch records were kept at B.C. stations during the 1930's with details about each whale caught then they have been lost. No such records were found in the Consolidated Whaling Corporation material at the Suzzallo Library and detailed accounts are not available from the International Whaling Commission who would have these data had they been sent to the Bureau of International Whaling Statistics. The only indication that any sort of whaling guidelines were in place during this period might be inferred from the 1934 bonus schedule, found in the W.S. Lagen Collection at the Suzzallo Library, (Table 10). These bonuses would have encouraged the take of whales larger than the specified lengths. Note, however, there was no minimum lengths set.

Table 10. Consolidated Whaling Corporation Ltd., season 1934. Wages and Bonuses.

	Wages/Mo.	Sperm	Humpback		Fin		Blue	
			<40ft	>40ft	<65ft	>65ft	<70ft	>70ft
Captain	*							
Mate	46.75	3.00	2.90	3.10	2.90	3.10	2.90	3.10
Deckhands	30.25	2.00	1.90	2.10	1.90	2.10	1.90	2.10
Firemen	46.75	.60	.35	.45	.35	.45	.35	.45
Chief Engineer**	90.75							
Cook**	38.50							
2nd Engineer**	74.25							

* Wages and bonuses for Captains were not given but presumably would have been higher. ** These crew members did not receive bonuses. **Source**: William S. Lagen Collection Accession #2292, Box 1, General Correspondence 1934. University of Washington Manuscripts Division.

WHALING REGULATIONS IN CANADIAN WATERS 1937 TO 1945

In 1937, the International Agreement for the Regulation of Whaling was drawn up and applied more stringent controls on whaling. Statistics from whaling operations collected since the previous agreement signed in 1931 in Geneva showed that world-wide, there had been a five-fold increase in the numbers of whales killed without a comparable increase in the production of oil and fertilizer. This suggested that immature whales comprised much of the global catch. The new regulations placed some controls on factory ships, established specific geographic hunting areas and extended protection of whales to include the gray whale as well as females with calves. Minimum length limits were added as well. Whaling statistics were to be collected by an impartial inspector paid by government who would then forward these to the Bureau of International Whaling Statistics in Norway.

A bonus schedule for 1942, found in the W.S. Lagen Collection at the Suzzallo Library, seems to reflect the new terms (Table 11). Unlike the schedule of 1934, the 1942 schedule includes a bonus for a range of acceptable lengths for each species and then a slightly larger bonus for larger whales.

Table 11. Consolidated Whaling Corporation Ltd. season 1942. Wages and Bonuses.

Crew	Wages	Sperm		Humpback		Fin		Blue	
	month	35'–45'	>45'	35' –40'	>40'	55' –65'	>65'	70' –80'	>80'
Captain	200.00	25.00	25.00	20.00	20.00	20.00	20.00	20.00	20.00
Mate	125.00	6.00	6.20	6.00	6.20	6.00	6.20	6.00	6.20
Deckhands	95.00	5.00	5.20	5.00	5.20	5.00	5.20	5.00	5.20
Firemen	95.00	5.00	5.20	5.00	5.20	5.00	5.20	5.00	5.20
Cook	95.00	5.00	5.20	5.00	5.20	5.00	5.20	5.00	5.20
Chief Engineer*	215.00								
2nd Engineer*	190.00								

* These crew members did not receive bonuses
Source: William S. Lagen Collection Accession #2292, Box 4, Legal Documents and Exhibits 1935-46. University of Washington Manuscripts Division.

COMMERCIAL WHALING, 1948 TO 1967

With the closing of Rose Harbour and Naden Harbour by 1943, four years passed before hunting resumed. The Western Whaling Company, forerunner of B.C. Packers Ltd. opened a new station at the former airforce based in Coal Harbour, on Vancouver Island in 1948. Coal Harbour whaling operations were far more intense than the earlier coastal operations. Whalers used bigger boats and more of them (Table 12). They had better equipment with which to find whales including aerial reconnaissance. The season was typically longer than in the earlier era (Table 13), and the area searched was much larger, with whalers travelling as much as 200nm offshore. Coal Harbour operated every year from 1948 to 1967, except in 1960 and 1961 when it was closed due to poor market conditions. The station closed permanently in 1967. Between 1948 and 1967 10,362 whales were killed (Table 14).

Table 12. Coal Harbour whaling vessel codes and specifications.

Full name	Vessel Code	HP	Ton
Kimsquit	K	?	?
Lavallee	L	375	190
Nahmint	N	375	190
West Whale 1 (Polar V)	1	1200	273
West Whale 2 (Globe VII)	2	1600	251
West Whale 3 (Bouvet III)	3	850	246
West Whale 4 (Tahsis Chief)	4	1200	254
West Whale 5	5	1600	383
West Whale 6	6	1600	387
West Whale 7	7	2013	580
West Whale 8	8	2013	580
West Whale 9	9	2000	392
MV Belina*	B	?	?

* Marking Trip, **Source**: Reference 390. Pike G.C. 1964. Whaling Data Tables, Coal Harbour, B.C. Fisheries Research Board of Canada. Unpubl. 85pp

Table 13. Whaling season and vessels operating annually at Coal Harbour.

Year	Season	# of boats	Boat names[1]
1948	May 30 - Sept. 24	4	unknown
1949	May 16 - Sept. 25	3	K, N, 4
1950	May 28 - Sept. 15	3	K, N, 4
1951	Apr.16 - Sept. 23	5	N, 4, 3, 1, 2
1952	May 19 - Sept. 10	5	N, 4, 3, 1, 2
1953	Apr.17- Sept. 16	5	N, 4, 3, 1, 2
1954	Apr. 9 - Sept. 12	6	L, N, 4, 3, 1, 2
1955	Apr.14 - Sept. 12	6	L, N, 4, 3, 1, 2
1956	May 22 - Sept. 17	6	L, N, 4, 3, 1, 2
1957	Apr.11 - Sept. 22	6	L, N, 4, 3, 1, 2
1958	Apr.12 - Sept. 17	6	L, N, 4, 3, 1, 2
1959	Apr.13 - Sept. 12	6	L, N, 4, 3, 1, 2
1960	*station closed*		
1961	*station closed*		
1962	Apr.20 - Sept. 25	6	4, 3, 1, 2, 5, 6
1963	May 11- Sept. 23	5	4, 5, 6, 7, 8
1964	Apr. 9 - Sept. 23	5	4, 5, 6, 7, 8
1965	Apr.10 - Sept. 22	5	4, 5, 6, 7, 8
1966	Apr. 9 - Sept. 23	5	4, 5, 6, 7, 8
1967	Apr. 7- Aug. 28	5	5, 6, 7, 8, 9

[1] L=Lavalee, N=Nahmint, K=Kimsquit, 1=West Whale 1 (Polar V), 2=West Whale 2 (Globe VII), 3=West Whale 3 (Bouvet III), 4=West Whale 4 (Tahsis Chief), 5=West Whale 5, 6=West Whale 6, 7=West Whale 7, 8=West Whale 8, 9=West Whale 9. **Source:** Pike G.C. 1964. Whaling Data Tables, Coal Harbour, British Columbia, Fisheries Research Board of Canada. Unpubl. 85pp, and from Plant Tally books and Whaling logbooks (ref 390). See Section 8.0 for description of this reference source.

Table 14. Coal Harbour annual catch by species.

Year	Species[1]									
	BBW	BW	FW	GW	HW	MW	RW	SPW	SW	Total
1948			38		119			28	3	188
1949		2	105		76			69	3	255
1950	1	4	150		95			40	24	314
1951	1	9	216	1	51		1	153	5	437
1952		16	240		61			126	22	465
1953	4	8	181	10	47			275	14	539
1954	3	11	150		106			226	134	630
1955	3	11	120		37			320	139	630
1956	1	15	167		28			127	37	375
1957	4	15	284		49			190	93	635
1958	2	8	573		40			112	39	774
1959		28	372		28			256	185	869
1962	1	26	158		16			172	340	713
1963	3	30	220		24			147	154	578
1964		12	140		10			105	613	880
1965		9	83		18			151	603	864
1966	2		134					229	355	720
1967			102			1		304	89	496
Total	25	204	3433	11	805	1	1	3030	2852	10362

[1] BBW=Baird's beaked whale, BW = blue whale, FW = fin whale, HW = humpback whale, MW = minke whale, RW = right whale, SPW = sperm whale, SW = sei whale

WHALING REGULATIONS IN CANADIAN WATERS 1948 TO 1967

In 1946, an international meeting was held in Washington, D.C. where the terms of the International Convention for the Regulation of Whaling were reinstated and amended. Sei whales were added to the list of species for which there was a minimum length restriction. Table 15 lists minimum lengths for each species. It is interesting to note that the minimum length for blue whales and fin whales is less than that on the bonus schedule of 1942 (Table 11). A new regulatory body, the International Whaling Commission (IWC) was established. The commission would recommend new whaling regulations, monitor whaling around the world, and for the first time, scientific findings would form the basis of regulations. The Bureau of International Whaling Statistics would continue to collect whaling catch statistics from member countries. The IWC would designate protected areas; set dates for whaling seasons, close certain waters to commercial whaling, limit total catch, and define standards of measurement (IWC 1950). Table 16 summarizes the regulations from 1904 to 1965.

Independent observers collected the catch statistics and forwarded these to the Bureau of International Whaling Statistics. In British Columbia, Gordon Pike a biologist with DFO at the Pacific Biological Station in Nanaimo was assigned the task of collecting catch statistics and biological data at Coal Harbour when it opened in 1948. In addition to collecting the basic catch statistics as required, Pike conducted research on a variety of subjects including: methods to determine age and size at sexual maturity of fin whales, humpback whales and sperm whales. Seasonal changes in blubber thickness; diet studies through stomach content analysis; and the schooling and migration behaviours of sperm whales (Pike 1956; Pike 1958; Pike 1965a; Pike

1965b). The requirement for government supervision of the operations and collection of biological data resulted in a fairly complete record of the catch from these years.

Table 15. Minimum Length Limits of 1946.

Sperm	Humpback	Fin	Sei	Blue
> = 35'	>=35'	>=50	>=35'	>=65'

Table 16 is a summary of the whaling regulations that affected whaling operations in British Columbia.

Table 16. Whaling Industry Regulations in British Columbia.

Year	Type of Regulation
1904	The Canadian government imposes (Webb 1988): • a 50-mile minimum distance between shore stations and/or settlements • Only one catcher boat per station • Whales must to be processed within 24 hours of capture
1906	50-mile minimum distance increased to 100 miles (Webb 1988).
1910	The one chaser boat per station limit was lifted (Webb 1988).
1931	The first International Whaling Convention was drafted and signed in Geneva (Mizroch 1984). The convention requires that: • Each nation provide statistics on whales such as date caught, location of capture species, sex, length, presence of foetus, and stomach contents where practical to collect. They were also to report on the amount of oil and fertilizer produced • Statistics were forwarded annually to the Bureau of International Whaling Statistics in Norway • Bonuses were no longer to be paid according to the number of whales caught, but rather according to size and species • No minimum length limits were set out in this convention • The right whale received protection from whaling
1933	The Canadian government required that bonuses be paid according to the length of the whales caught, presumably to discourage killing of immature whales (Webb 1988).
1935	The International Whaling Convention of 1931 is ratified (Mizroch 1984).
1937	International Agreement for the Regulation of Whaling applied more stringent controls on whaling. The Agreement imposed the following (Webb 1988): • Prohibited hunting of gray whale • Prohibited hunting of females with calves • Set minimum length limits • An impartial inspector paid by government collected statistics
1946	Terms of the International Convention for the Regulation of Whaling were reinstated and amended (IWC 1950). • Minimum length limits were applied to sei whales
1949	The International Whaling Commission (IWC) was established as per the requirements of Article III of the International Convention for the Regulation of Whaling signed in 1946 (IWC 1950): • The commission would recommend new whaling regulations, monitor whaling around the world, and scientific findings would form the basis of regulations
1965	Protection of humpback whales and blue whales after 1965 (Mizroch et al. 1984)

3.0 CATCH DATA AVAILABLE BY WHALING STATION

Prior to 1948, most of the catch records are limited to the species caught and number caught at each station, by month or by day. Sometimes the vessels are identified. For most of the 14,065 whales caught between 1908 and 1943, the location of capture, the sex and length of the whale is not known. Due to more stringent regulations and the presence of a government biologist at Coal Harbour, details about the 10,362 whales caught between 1948 and 1967 were recorded in more depth and far more consistently.

Sechart 1905 to 1917

- 1908 to 1917, number of each species caught each month. Data for the years 1905, 1906 and 1907 were not found.

Kyuquot 1908 to 1925

- 1908 to 1923. number of each species caught each month. Date for the year 1907 were not found.
- 1924 and 1925, the date, the vessel, the location of capture, length and sex of the whale as well as the presence and length of foetuses. In the original data source, the location of capture was given as a distance and direction from land.

Rose Harbour 1910 to 1943

- 1910 to 1923, and 1929 to 1943 number of each species caught each month.
- 1924 to 1928, the date, the vessel, the location of capture, length, sex as well as the presence and length of foetuses. Most of the locations were recorded as latitude and longitude degrees and minutes, the rest of the locations were given as a distance and direction from land. Compared to the Coal Harbour era there were few foetuses suggesting that very small foetuses may have gone unreported.

Naden Harbour 1911 to 1941

- 1911 to 1923, and 1928 to 1941, number of each species caught each month
- 1924 to 1927 the date, the vessel, the location of capture, lengh, sex as well as the presence and length of foetuses. Most of the locations were recorded as latitude and longitude degrees and minutes, the rest of the locations were given as a distance and direction from land. Compared to the Coal Harbour era there were few foetuses suggesting that very small foetuses may have gone unreported.

Coal Harbour 1948 to 1967

- Location of capture in latitude and longitude degrees and minutes was report for almost every whale caught, as well as the day, month, vessel, water temperature, species, length and sex, presence of foetuses often including their length and sex were recorded routinely. Stomach fullness and contents, blubber thickness and mammary gland condition and other measures of reproductive organs and morphometric measures were made of a large subset of whales.

Tables 17 to 22, summarize the types of data in the HWD for each whaling station.

Table 17. Data available in the HWD from Kyuquot.

Year	Catch by day	Catch by Month	Catch by Boat	Catch Location	Sightings	Ident. of whale Species	Length	Sex	Foetus	Stomach Contents	Blubber Thickness	Mammary Gland Thickness	Mammary Condition
1908-23		X				X							
1924-25	X		X	X		X	X	X	X				

Table 18. Data available in the HWD from Sechart.

Year	Catch by day	Catch by Month	Catch by Boat	Catch Location	Sightings	Ident. Of whale Species	Length	Sex	Foetus	Stomach Contents	Blubber Thickness	Mammary Gland Thickness	Mammary Condition
1905-07													
1908-17		X				X							

Table 19. Data available in the HWD from Rose Harbour.

Year	Catch by day	Catch by Month	Catch by Boat	Catch Location	Sightings	Ident. of whale Species	Length	Sex	Foetus	Stomach Contents	Blubber Thickness	Mammary Gland Thickness	Mammary Condition
1910-23		X				X							
1924-28	X		X	X		X	X	X	X				
1929-43		X				X							

Table 20. Data available in the HWD from Naden Harbour.

Year	Catch By day	Catch by Month	Catch by Boat	Catch Location	Sightings	Ident. of whale Species	Length	Sex	Foetus	Stomach Contents	Blubber Thickness	Mammary Gland Thickness	Mammary Condition
1911 -23		X				X							
1924 -27	X		X	X		X	X	X	X				
1928 -41		X				X							

Table 21. Data available in the HWD from Coal Harbour.

Year	Catch by day	Catch by Month	Catch by Boat	Catch Location	Water Temp.	Sightings	Ident. of whale Species	Length	Sex	Foetus	Stomach Contents	Blubber Thickness	Mammary Gland Thickness	Mammary Condition
1948	X			X			X	X	X	X	X			
1949 -59	X		X	X			X	X	X	X	X			
1962	X		X	X	X		X	X	X	X	X	X	X	X
1963 -67	X		X	X	X	X	X	X	X	X	X	X	X	X

Table 22. Data available in the HWD from New Coal Harbour tables.

Year	Morphometrics	Uterine horn	Corpora	Repro. condition	Ovary/Teste weight	Follicle	Cornua	Diatoms	Age info.	Race	Blood specimen #	Ovulations
1948												
1949-59	X	X	X	X	X	X	X	X	X			
1962		X	X	X	X	X		X	X	X	X	X
1963-67		X	X	X	X	X		X	X	X	X	X

4.0 DATABASE TABLES AND RELATIONSHIPS

The HWD is in an MS Access database format. In this format, a database refers to all related files and each file in the database is called a table. Four related tables comprise the original Historical Whaling Database (HWD) and a further 5 tables contain the new Coal Harbour data added in 1999. The following is a general description of each table and the way in which each table relates to others. Figure 2 illustrates the relationship with actual records from the HWD.

Table: STATIONS

Each record in **Stations** represents a unique date-geographical location-vessel-whaling station-reference source at which a whale was killed or sighted. Each record is assigned a unique key, Stn_id, that links all data in the other tables about the whales caught or sighted at that *station.*

Table: GROUP

Group records describe the type of whaling event that happened at a particular *station.* Each record in **Group** is linked to a record in **Station** by the Stn_id key. Whaling events were either a kill or a sighting. The number of whales of each species killed or sighted at a *station* is contained in a **Group** record. A record in **Group** links to one or more records in **Individ** by means of an Event_id, which is a unique key, for every unique combination of Stn_id and Event_type and Species_id.

Table: INDIVID

Each record in **Individ** contains biological data collected from one killed whale. These data are sex, length and the presence, sex and length of foetuses. Each record is linked to its *station* in the **Stations** table by Stn_id and by Event_id to it's associated record in the **Group** table. Each **Individ** record may also be linked to a record in **Stom_c** by Whale_id. Whale_id is a unique key created from the combination of a unique Event_id, Species_id, Sex, and Length.

Table: STOM_C

Each record in **Stom_c** contains stomach contents and/or blubber thickness and/or mammary gland thickness and mammary gland condition for one whale. Each record contains the Stn_id key to link it to a *station* in the **Stations** table, an Event_id to link it to the *event* in **Group** and a Whale_id that links up to the other biological data about the whale that is stored in the table **Individ**.

Tables: NEW COAL HBR

There are 5 New Coal Hbr data tables, they are;

New Coal Hbr 1949-58 Fin and Blue
New Coal Hbr 1949-58 Humpback
New Coal Hbr 1955-57 Sei and Sperm
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other
New Coal Hbr 1963, 65-67 all Species

Each record in these tables contains detailed reproductive, morphometric, or stomach contents or age data as well as the date of processing on one whale killed. It should be emphasized the whales documented in these tables has already been documented in **Stations**, **Group**, **Individ** and **Stom_c**, but the historical records added in 1999, include additional measurements that were not uncovered in 1987 when the HWD was created.

The new data were entered to separate database tables and then an attempt was made to link the records to the existing positional data in the **Stations** table. A link was made, using a key composed of Year, Month, Day, Species, Sex and Length, however, this resulted in a success rate of less than 25%. In the **New Coal Hbr** tables the records that were successfully linked by this means contain the Stn_id code allowing the record to be linked to the **Stations** table.

There are several reasons for the low success rate with the link.

1. The date a whale was processed which is the date recorded in the **New Coal Hbr** sources was almost always the day after captured – the data recorded in logbooks or on catch slips that were used in **Stations**.
2. Whale length measurements were usually rounded to the nearest foot. However, the measurements in the **New Coal Hbr** data are often recorded to the nearest inch creating an apparent length discrepancy.
3. Data recording errors among multiple historical sources of similar information.

For more information about linking more of the **New Coal Hbr** records to the other tables in the HWD see Section 6.0.

Figure 2. Example of relationships between tables in the database using actual data records.

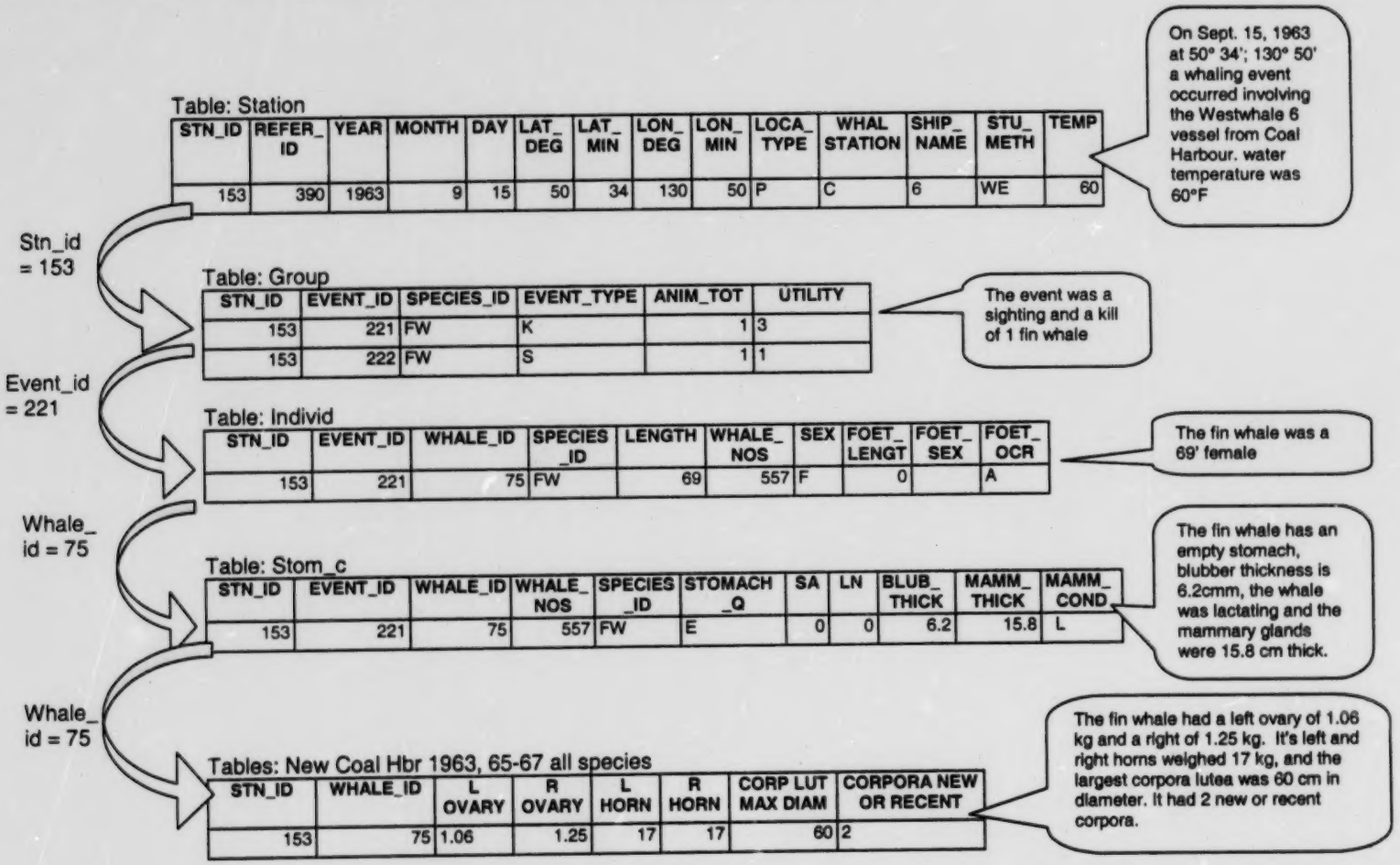
Table: Station
STN_ID | REFER_ID | YEAR | MONTH | DAY | LAT_DEG | LAT_MIN | LON_DEG | LON_MIN | LOCA_TYPE | WHAL STATION | SHIP_NAME | STU_METH | TEMP
153 | 390 | 1963 | 9 | 15 | 50 | 34 | 130 | 50 | P | C | 6 | WE | 60
On Sept. 15, 1963 at 50° 34'; 130° 50' a whaling event occurred involving the Westwhale 6 vessel from Coal Harbour. water temperature was 60°F
Stn_id = 153
Table: Group
STN_ID | EVENT_ID | SPECIES_ID | EVENT_TYPE | ANIM_TOT | UTILITY
153 | 221 | FW | K | 1 | 3
153 | 222 | FW | S | 1 | 1
The event was a sighting and a kill of 1 fin whale
Event_id = 221
Table: Individ
STN_ID | EVENT_ID | WHALE_ID | SPECIES_ID | LENGTH | WHALE_NOS | SEX | FOET_LENGT | FOET_SEX | FOET_OCR
153 | 221 | 75 | FW | 69 | 557 | F | 0 | | A
The fin whale was a 69' female
Whale_id = 75
Table: Stom_c
STN_ID | EVENT_ID | WHALE_ID | WHALE_NOS | SPECIES_ID | STOMACH_Q | SA | LN | BLUB_THICK | MAMM_THICK | MAMM_COND
153 | 221 | 75 | 557 | FW | E | 0 | 0 | 6.2 | 15.8 | L
The fin whale has an empty stomach, blubber thickness is 6.2cmm, the whale was lactating and the mammary glands were 15.8 cm thick.
Whale_id = 75
Tables: New Coal Hbr 1963, 65-67 all species
STN_ID | WHALE_ID | L OVARY | R OVARY | L HORN | R HORN | CORP LUT MAX DIAM | CORPORA NEW OR RECENT
153 | 75 | 1.06 | 1.25 | 17 | 17 | 60 | 2
The fin whale had a left ovary of 1.06 kg and a right of 1.25 kg. It's left and right horns weighed 17 kg, and the largest corpora lutea was 60 cm in diameter. It had 2 new or recent corpora.

5.0 DATABASE FIELDS AND CONTENTS BY DATA TABLE

The following is a detailed description of the data fields and their contents in each data table. The description is organized by Table, Field name and then by era. There are two eras: **Coal Harbour 1948 to 1967** and **1908 to 1943.** 1908 to 1943 refers to the whaling stations that operated between 1905 and 1943, Sechart, Kyuquot, Rose Harbour and Naden Harbour. Note that in the Ms Access database there are Lookup tables (e.g. LUspecies) that give brief definitions of some field contents.

5.1 TABLE: STATIONS

Field name: Stn_id

Stn_ids are unique numeric codes that link related records among data tables. There is one for each record in this table. See Section 4 for a description of this key field.

Field name: Refer_id

Refer_id, identifies the reference source of the data found in a particular record in this table and in the related records in the other tables. See Section 8.0 for a full description of the sources.

Coal Harbour era: Reference sources 400 and 390 provide the most detailed *stations* and were the source for 98% of the data for Coal Harbour. There is also a field Refer_id_II for records that contain information from two sources within the same database record. Only a portion of the records from 1962 contain an entry in the Refer_id_II field because the whale lengths are from Refer_id 907 while all other information is from Refer_id 390.

Table 23. Coal Harbour reference sources by year

Year	Refer_id					Refer_id_II
	76	97	390	391	400	907
1948	•	•		•		
1949					•	
1950					•	
1951					•	
1952					•	
1953					•	
1954					•	
1955			•		•	
1956					•	
1957					•	
1958					•	
1959					•	
1962			•			•
1963			•			
1964			•			
1965			•			
1966			•			
1967			•			
1969			•			

Field name: Refer_id *cont'd*

1908 to 1943 era: With the exception of data for the whaling station Sechart, several reference sources were used for each whaling station to compile as complete an account of the whales caught as possible. The following tables list the reference sources used by year at each of the early whaling stations.

Table 24. Kyuquot reference sources by year

YEAR	Data Source (Refer_id		
	74	94	98
1908		•	
1909		•	
1910		•	
1911		•	
1912		•	
1913		•	
1914		•	
1915		•	
1916	•		
1917	•		
1918	•		
1919	•		
1920	•		
1922	•		
1923	•		
1924			•
1925			•

Table 25. Naden Harbour reference sources by year

YEAR	Data Source (Refer_id			
	73	91	98	99
1911	•			
1912	•			
1913	•			
1914	•			
1915	•			
1916	•			
1918	•			
1919	•			
1920	•			
1922	•			
1923	•			
1924			•	
1925			•	•
1926			•	
1927			•	
1928				•
1929				•
1930				•
1934				•
1936				•
1937		•		
1938		•		
1941				•

Field name: Refer_id *cont'd*

Table 26. Rose Harbour reference sources by year.

YEAR	Data Source (Refer_id #)				
	73	91	94	98	99
1910			•		
1911			•		
1912			•		
1913			•		
1914			•		
1916			•		
1917			•		
1918			•		
1919			•		
1920					•
1923	•				
1924				•	
1925				•	
1926				•	
1927				•	
1928				•	•
1929					•
1930					•
1933					•
1934					•
1935					•
1936					•
1937		•			
1938					•
1940					•
1941					•
1942					•
1943					•

Table 27. Sechart reference sources by year.

YEAR	Data Source (Refer_id #)
	73
1908	•
1909	•
1910	•
1911	•
1912	•
1913	•
1914	•
1917	•

Field name: Year

Year s recorded as a four digit numeric value.

Field name: Month

Month is recorded as a two digit numeric value.

Field name: Day

Day is recorded as a two digit numeric value.

Field names: Lat_deg, Lat_min, Lon_deg, Lon_min

Geographic coordinates where whaling events occurred, reported in Latitude and Longitude and degrees and minutes.

Field name: Loca_type

A single letter code denoting the accuracy of the coordinate data of a particular *station*.

Table 28. Loca_type code definitions.

Loca_type	Description
P	**Point**. Refers to a location reported as a latitude and longitude coordinate.
A	**Area.** Refers to a location reported in the original reference source as a distance and heading from land, e.g. " 25 mi SW of Kains Light". The location was converted to Latitude and Longitude for entry into the HWD in 1987
G	**General area.** Refers to a position reported to degrees and not minutes, or where location was reported relative to land without a distance or a heading, e.g. "off Quatsino Sound". The location was converted to latitude and longitude for entry into the HWD in 1987
N	No geo-referencing associated with the record

Coal Harbour era: Most Coal Harbour records have a Loca_type =P.

Table 29. Coal Harbour. Number of records by Loca_type, year and reference source.

Refer_id	Year	Loca_type			
		A	G	N	P
76	1948			1	
97	1948	33	3	29	52
391	1948			2	
400	1949		96		
400	1950		90		
400	1951		277		
400	1952				410
400	1953				454
400	1954				506
390	1955				1
400	1955				417
400	1956	1			273
400	1957				564
400	1958	1			643
400	1959				683
390	1962				636
390	1963	1			402
390	1964		2		583
390	1965				549
390	1966				483
390	1967				286
390	1969				4

Field name: Loca_type *cont'd*

1908 to 1943 era: Most of the whaling data from the early whaling stations do not have geographical information.

Table 30. Kyuquot. Number of records by Loca_type, year and reference source.

Year	Refer_id #	Loca_type A	G	N	P
1908	94			8	
1909	94			8	
1910	94			7	
1911	94			8	
1912	94			8	
1913	94			7	
1914	94			6	
1915	94			4	
1916	74			6	
1917	74			7	
1918	74			7	
1919	74			6	
1920	74			7	
1922	74			4	
1923	74			6	
1924	98	20		98	
1925	98	58	2	2	

Table 31. Naden Harbour. Number of records by Loca_type, year and reference source.

Year	Refer_id #	Loca_type A	G	N	P
1911	73			8	
1912	73			8	
1913	73			6	
1914	73			7	
1915	73			3	
1916	73			5	
1918	73			7	
1919	73			6	
1920	73			6	
1922	73			5	
1923	73			6	
1924	98				61
1925	98	9	18	3	15
1925	99			8	
1926	98	11	10	2	27
1927	98	1		12	64
1928	99			5	
1929	99			20	
1930	99			12	
1934	99			19	
1936	99			20	
1937	91			5	
1938	91			6	
1941	99			17	

Field name: Loca_type *cont'd*

Table 32. Rose Harbour. Number of records by Loca_type, year and reference source.

Year	Refer_id #	Loca_type A	G	N	P
1910	94			5	
1911	94			8	
1912	94			8	
1913	94			6	
1914	94			6	
1916	94			5	
1917	94			6	
1918	94			7	
1919	94			7	
1920	99			34	
1923	73			6	
1924	98			134	
1925	98				136
1926	98	2			170
1927	98				107
1928	98	116	13		36
1928	99			1	
1929	99			27	
1930	99			14	
1933	99			14	
1934	99			21	
1935	99			21	
1936	99			22	
1937	91			6	
1938	99			22	
1940	99			17	
1941	99			22	
1942	99			17	
1943	99			14	

Table 33. Sechart. Number of records by Loca_type, year and reference source.

Year	Refer_id #	Loca_type A	G	N	P
1908	73			9	
1909	73			10	
1910	73			9	
1911	73			8	
1912	73			8	
1913	73			6	
1914	73			6	
1917	73			5	

Field name: Whalstation

A single letter code denoting the whaling station.

Table 34. Whaling station names and codes.

Whalstation	Station Name
C	Coal Harbour
K	Kyuquot
N	Naden Harbour
R	Rose Harbour
S	Sechart

Field name: Ship_name

Ship_name is a letter or numeric code denoting the vessel associated with a *station.* Table 35 lists 12 ships that operated between 1948 and 1967. One vessels the Kimsquit is not associated with any records in the database an thus is not included here. See table of Coal Harbour whaling seasons and vessels in Section 2.0 for more details.

Coal Harbour era:

Table 35. Coal Harbour whaling vessels.

Full name	Vessel Code
Lavallee	L
Nahmint	N
West Whale 1 (Polar V)	1
West Whale 2 (Globe VII)	2
West Whale 3 (Bouvet III)	3
West Whale 4 (Tahsis Chief)	4
West Whale 5	5
West Whale 6	6
West Whale 7	7
West Whale 8	8
West Whale 9	9
MV Belina*	B

* Marking Trip

1908 to 1943 era: Table 36 lists 9 ships that operated between 1908 and 1943 from the four whaling stations that operated during this period. Two other vessels the S.S. Germania and the S.S. Sebastian are not associated with any records in the database and thus are not included here. See tables of whaling seasons and vessels in Section 2.0 for more details.

Table 36. 1908 to 1943 era whaling vessels.

Ship_name (code)	Ship name
BK	S.S. Black
BL	S.S. Blue
BR	S.S. Brown
GT	S.S. Grant
GY	S.S. Gray
GR	S.S. Green
OR	S.S. Orion
SL	S.S. St. Lawrence
WH	S.S. White

Field name: Stu_meth

There were two types of expeditions. Whaling Expeditions (WE) and Marking Trips (MT). There are only a small number of MT records and they are from March and April of 1964 and 1966 and May of 1969.

Field name:Temp

Coal Harbour era: Temp refers to water temperature. In the 1960's, water temperature was recorded fairly routinely when whales were hunted. Temperature was recorded in degrees Fahrenheit. Only reference 390 provides temperature.

Table 37. Number of Coal Harbour water temperature records and year.

Year	# temp records	Total # of Ref 390 records
1962	554	636
1963	348	470
1964	512	596
1965	521	552
1966	456	554
1969*	4	4

*marking trip

5.2 TABLE: GROUP

Field name: Stn_id

See Section 5.1 or 4.0.

Field name: Species_id

A 2 to 3-letter code for the species of whale killed or sighted.

Table 38. Whale species codes and names.

Code	Common Name	Latin Name
BW	blue whale	*Balaenoptera musculus*
FW	fin whale	*Balaenoptera physalus*
SW	sei whale	*Balaenoptera borealis*
HW	humpback whale	*Megaptera novaeangliae*
GW	gray whale	*Eschrichtius robustus*
RW	Northern right whale	*Eubalaena glacialis*
MW	minke whale	*Balaenoptera acutorostrata*
SPW	sperm whale	*Physeter macrocephalus*
BBW	Baird's beaked whale	*Berardius bairdii*

Field name: Event_type

At each *station* a whaling event occurred. The event was either a Sighting (S) or a Kill (K).

Coal Harbour era: Sightings including group size were reported fairly consistently between 1962 and 1967 and come from reference source 390. These data may be of interest as they give some indication of the size of aggregations encountered. There is however certain bias associated with sightings. Often there would be a series of sightings and kills that suggested that several animals were killed from a group of animals over a period of hours. Thus the initial sighting may be of 5 whales, followed by an entry of 1 killed, followed by a sighting of 4 whales, followed by an entry of 1 killed.

Despite this, during compilation of logbook entries, the following criterion was used to decide whether to create a new record for a new group sighting. If the coordinates of the sighting were different than the previous sighting, then the group was treated as a new group sighting. The sequences of these entries in the logbook are preserved in the database. For a series of sightings and kills on a given day by a given boat the Stn_id numbers will be in sequence starting with a low number and ending with a higher number.

Field name: Event_type *cont'd*

Table 39. Coal Harbour records in Group table by event-type, source and year.

Year	Refer_id #	Event_type	
		K	S
1948	76	1	
1948	97	126	
1948	391	5	
1949	400	146	
1950	400	165	
1951	400	308	
1952	400	418	
1953	400	456	
1954	400	515	
1955	400	426	
1955	390	1	
1956	400	289	
1957	400	571	
1958	400	654	
1959	400	710	
1962	390	639	630
1963	390	406	410
1964	390	593	594
1965	390	558	561
1966	390	489	504
1967	390	287	2
1969	390		4

1908 to 1943 era: Only Event_type=K, no sightings.

Field name: Event_id

Each sighting or kill of a whale is reported in **Group** and identified and linked to the *station* where the event occurred by the Stn_id. Each record in **Group** is also coded with an Event_id that is a unique key for each unique combination of Stn_id, Event_type and Species_id. This key links a **Group** record to its related records in the tables **Individ** and in the case of Coal Harbour data to records in **Stcm_c**

Field name: Anim_tot

The number of animals killed or sighted associated with each Event_id.

Coal Harbour era: Records from reference source 390 provide actual observations of group sizes in the sightings, however, for other reference sources, the value in Anim_tot is really just the number of kills associated with the Event_id. These may be the total number of a species killed on a day or in a month.

1908 to 1943 era: Anim_tot is not the group size observed, but rather the number of whales of a species killed in a period of time (ie. Month).

Field name: Utility

This code reflects the level of detail associated with a record or whale in its related records in the other tables. Utility is a filtering key that was useful when the original database was in dBase III+ and allowed easy selection of specific types of records for specific types of computations. For example, some records have geo-referencing and can be used for mapping. Others may have only length and sex.

Coal Harbour era: The following table summarizes data associated with each Utility code in the Coal Harbour data.

Table 40. Coal Harbour Utility codes and definitions.

Utility	Description[1]	Year range
1	The record has a loca_type=P and coordinates in **Stations**. Event_type=S in **Group**. No records in **Individ.**	1962-1969*
2	The record has a loca_type=N and no coordinates in **Stations**. Event_type=K in **Group**. There may be sex, length and foetus measurements in **Individ**	1948
3	The record has a loca_type = P or A or G and coordinates in **Stations**, Event_type=K in **Group**. Sex, length, foetus measurements in **Individ**. Blubber, stomach contents and mammary gland measurements may be in **Stom_c**.	1949 - 1967

[1] See Section 5.1 for a description of Loca_type codes, and see above in this section for description of Event_type

* 1968 and 1969 were sightings made during whale marking trips.

Field name: Utility *cont'd*

Table 41. Number of Coal Harbour records by Utility, Year, Reference source and Event_type.

Year	Refer_id	Event_type	Utility		
			1	2	3
1948	76	K		1	
1948	97	K		38	88
1948	391	K		5	
1949	400	K			146
1950	400	K			165
1951	400	K			308
1952	400	K			418
1953	400	K			456
1954	400	K			515
1955	390	K	1		
1955	400	K			426
1956	400	K			289
1957	400	K			571
1958	400	K			654
1959	400	K			710
1962	390	K			639
1962	390	S	630		
1963	390	K			406
1963	390	S	410		
1964	390	K			593
1964	390	S	594		
1965	390	K			558
1965	390	S	561		
1966	390	K			489
1966	390	S	504		
1967	390	K			287
1967	390	S	2		
1969	390	S	4		

Field name: Utility *cont'd*

1908 to 1943 era: The following table summarizes the types of data associated with Utility codes in the 1908 to 1943 data.

Table 42. 1908 to 1943 era Utility codes and definitions.

Code	**Description**[1]
2	The record has a loca_type=N and no coordinates in **Stations**. Event-type=K in **Group**. No records in **Individ**.
3	The record has a loca_type=P or A or G and coordinates in **Stations**. Event-type=K in **Group**. Length, sex and foetus measurements are in **Individ**.

[1] See Section 5.1 for a description of Loca_type codes, and see above in this section for description of Event_type

Table 43. Kyuquot. Number of records by Utility, Year and Reference source.

Year	Refer_id	Utility	
		2	3
1908	94	21	
1909	94	18	
1910	94	20	
1911	94	24	
1912	94	26	
1913	94	19	
1914	94	21	
1915	94	12	
1916	74	24	
1917	74	25	
1918	74	26	
1919	74	21	
1920	74	21	
1922	74	13	
1923	74	26	
1924	98	104	20
1925	98	2	65

Table 44. Naden Harbour. Number of records by Utility, Year and Reference source.

Year	Refer_id	Utility	
		2	3
1911	73	18	
1912	73	20	
1913	73	16	
1914	73	20	
1915	73	9	
1916	73	15	
1918	73	22	
1919	73	18	
1920	73	18	
1922	73	14	
1923	73	19	
1924	98		61
1925	98	3	43
1925	99	18	
1926	98	1	49
1927	98	12	67
1928	99	16	
1929	99	50	
1930	99	23	
1934	99	34	
1936	99	38	
1937	91	12	
1938	91	15	
1941	99	31	

Table 45. Rose Harbour. Number of records by Utility, Year and Reference source.

Year	Refer_id	Utility	
		2	3
1910	94	14	
1911	94	26	
1912	94	22	
1913	94	14	
1914	94	18	
1916	94	14	
1917	94	19	
1918	94	20	
1919	94	23	
1920	99	63	
1923	73	26	
1924	98		150
1925	98		137
1926	98		173
1927	98		110
1928	98		171
1928	99	3	
1929	99	63	
1930	99	39	
1933	99	21	
1934	99	37	
1935	99	33	
1936	99	40	
1937	91	12	
1938	99	36	
1940	99	26	
1941	99	40	
1942	99	29	
1943	99	25	

Table 46. Sechart. Number of records by Utility, Year and Reference source.

Year	Refer_id	Utility
		2
1908	73	20
1909	73	18
1910	73	19
1911	73	23
1912	73	22
1913	73	17
1914	73	15
1917	73	14

5.3 TABLE: INDIVID

Coal Harbour era: There are records in Individ for all years of operation from 1948 to 1967

1908 to 1943 era: Only a small proportion of the whale catch prior to 1947 have length, sex, and foetus measurements. The source for these records is Refer_id 98.

Table 47. Numbers of records in INDIVID by whaling stations in 1908 to 1943 Era.

Year	Refer_id	Kyuquot	Naden Harbour	Rose Harbour
1924	98	141	72	201
1925	98	80	54	176
1926	98		56	209
1927	98		93	164
1928	98			225

Field name: Stn_id

See Section 5.1 or 4.0.

Field name: Event_id

See Section 5.2 or 4.0.

Field name: Whale_id

Each record has a Whale_id. This is a unique key for every unique combination of Stn_id, Event_id, Species_id, Length and Sex. This key links each record in the table **Individ** to a related record (if any) in the table **Stom_c**.

Field name: Species_id

See Table 38.

Field name: Length

Length of the whale reported in feet.

Coal Harbour era: According to the IWC regulations, whale length was to be measured in a straight line from the point of the upper jaw to the notch in the tail flukes. Length was reported to the nearest foot, such that a length between 36'6" and 37' 6" was reported as 37' and length of 37'6" was reported as 38'.

1908 to 1943 era: No references were found describing the method of measurement prior to 1948. Of the 1,476 records in **Individ** for the 1908 to 1943 era, 1,474 have length data. Only two fin whales caught in 1927 and processed at Naden Harbour are missing length data.

Field name: Whale_nos

Coal Harbour era: Catch records from reference source 390 for 1962 to 1967, have numbers for each whale as it was brought into the station for processing, in the database these are called Whale_nos. These numbers are reported in the annual processing plant tally books. Each year, sequential numbering started at 1, hence these numbers are not unique among years. Date records from 1949 and 1959 from reference source 400, have numbers (Whale_nos) that are not historic but reflects the sequential listing of the data records in the IWC database.

1908 to 1943 era: No whale numbers for the pre-1947 era. This field is blank in all records.

Field name: Sex

The sex of a whale is recorded where known as F (female) or M (male) or U (unknown).

Coal Harbour era: All but one record in 1957 include the sex of the whale.

1908 to 1943 era: 47 of 223 whales processed at Naden Harbour in 1925, 26 and 27 were not identified to sex. Seven of 201 whales processed at Rose Harbour in 1924 were not identified to sex.

Field name: Foet_lengt

Foetus lengths were reported in inches.

Table 48. Coal Harbour records in table INDIVID by Foet_lengt, Year, Source.

Year	Refer_id#	# of foetus records
1948	76	1
1948	97	19
1949	400	28
1950	400	36
1951	400	34
1952	400	57
1953	400	50
1954	400	23
1955	400	42
1956	400	31
1957	400	81
1958	400	65
1959	400	53
1962	390	21
1962	390/907	1
1963	390	35
1964	390	12
1965	390	20
1966	390	12
1967	390	19
Total		639

Table 49. 1908 to 1943 era records in table INDIVID by Foet_lengt, Year and Source.

Year	Refer_id	Total	Kyuquot	Naden Harbour	Rose Harbour
1924	98	15	8	5	2
1925	98	20	9	1	10
1926	98	9		1	8
1927	98	2			2
1928	98	8			8

Field name: Foet_sex

Table 50. Foet_sex codes and definitions.

Code	detail	Description[1]		
F	female			
M	male			
U	unknown	if foet_ocr=L or P		
Z	not applicable	if Sex=M or sex=F +Foet_ocr=A		

[1] See table below for definitions of foet_ocr

Coal Harbour era: Of the 637 foetus documented between 1948 and 1967, 623 have been identified to sex.

1908 to 1943 era: Of the 54 foetus records, only 15 have been identified to sex.

Field name: Foet_ocr

Table 51. Foetus occurrence codes and definitions.

Code	detail	Description
P	present	when foet_sex = F,M,U
A	absent	when sex=F and foet_sex + foet_len are blank and Refer_id is one that reports foetuses
L	Lost	foetus reported lost
N	na	when sex=M or U
X	no report	when source is one that does not report foetuses. Refer_id 391

Field name: Foet_lg_II

Length of a second foetus if present. Reported in inches.

Coal Harbour era: Two records in 1955, and one record in each of 1958, 1962, 1967.

1908 to 1943 era: None.

Field name: Foet_sex_II

Sex of a second foetus if present.

Coal Harbour era: The same records as above.

1908 to 1943 era: None.

Field name: Foet_lg_III

Length of a third foetus if present. Reported in inches.

Coal Harbour era: There is one record from 1962.

1908 to 1943 era: None

Field name: Foet_sex_III

Sex of a third foetus if present.

Coal Harbour era: The same record as above.

1908 to 1943 era: None.

5.4 TABLE: STOM_C

Stomach contents, blubber thickness and mammary gland measurement data were recorded at Coal Harbour only. Stomach contents were not reported consistently. The following table lists the number of records (=whales) from each year by source that have stomach contents, or blubber thickness or mammary gland measurements in table **Stom_c**.

Table 52. Number of records in STOM_C by Year and Source.

Year	Refer_id #	# of records in Stom_c
1948	97	83
1949	400	14
1950	400	314
1951	400	437
1952	400	465
1953	400	539
1954	400	630
1955	400	630
1956	400	375
1957	400	635
1958	400	774
1959	400	869
1962	390	372
1963	390	576
1964	390	825
1965	390	846
1966	390	453
1967	390	427
Total		9264

Field name: Stn_id

See Section 5.1 or 4.0.

Field name: Event_id

See Section 5.2 or 4.0.

Field name: Whale_id

See Section 5.3 or 4.0.

Field name: Whale_nos

See description in Section 5.3.

Field name: Species_id

See Table 38.

Field name: Stomach_q

This is a letter code denoting the amount of food if any found in the stomach of a whale. Stomach quantity was recorded in various units and codes. No guide to the methods used or to definitions of codes were found. Thus the quantity entered in the database for all original records that had an amount greater than trace were entered as *present*. In many cases the quantity of stomach contents was not determined because the stomach was reported to have been cut or shot away. Stomachs may have been cut to relieve gas build up in carcasses while stomachs reported shot away resulted from the exploding harpoons. Many of the whales reported as Not Examined (N) were rotten, the stomach had been shot away or had been cut to such an extent that examination was not possible.

Table 53. Stomach quantity codes and definitions.

Code	Description
P	**Present** , the amount in the original reference source was recorded variously as ½ full, 5 gallons, 2, 3 or F. Or the stomach had been cut so that the quantity could not be determined, but feed was identified. The codes 2, 3 and F were used only in 1962.
T	**Trace**, the amount was recorded as trace and in 1962 as 1.
E	**Empty**, the stomach was examined and found to be empty.
N	**None**, the stomach was not examined but measurements of blubber thickness and/or mammary gland condition were made.

Field name: Stomach_q *cont'd*

Table 54. Number of records by Stomach_q code, Year and Source.

Year	Refer_id #	Stomach_q			
		E	N	P	T
1948	97			83	
1949	400				14
1950	400				314
1951	400				437
1952	400				465
1953	400				539
1954	400				630
1955	400				630
1956	400				375
1957	400				635
1958	400				774
1959	400				869
1962	390	147	64	134	27
1963	390	233	66	272	5
1964	390	491	34	204	96
1965	390	463	64	185	134
1966	390	215	98	83	57
1967	390	169	33	131	94

Stomach Contents

Field names: EU, CO, TS, EP, CC, SQ, SA, WO, WH, MR, RA, DO, OC, RO, LM, SN, SK, HA, LN, HE, MR

There is one field for each species or category of feed identified. These are logical fields and the presence of a prey species is denoted with a –1 and absence is denoted with a 0. The following list of food species vary as to taxonomic level. This list represents the level of species identification reported in the original records. See Appendix A for a note about food species identification between 1949 and 1959.

Table 55. Stomach contents species codes and names.

Species code	Species name
EU	Euphausiid
CO	Copepod
TS	*Thysanoessa spinifera*
EP	*Euphausia pacifica*
CC	*Calanus cristata*
SQ	squid
SA	saury
WO	worms
WH	whiting
MR	*Moroteuthis robusta*
RA	ragfish
DO	dogfish
OC	octopus

Species code	Species name
RO	rockfish
LM	lamprey
SN	snails
SK	skate
HA	hake
LN	Lantern fish
HE	Herring
MR	miscellaneous fish

Field name: Blubb_thick

Efforts to measure blubber thickness were made in some years but not all. The location on the body where the blubber was measured was not documented in the original records. Thickness was reported in centimetres. Blubber thickness measurements are from reference source 390 only.

Table 56. Number of blubber thickness records by year.

Year	# of Blubb_thick records
1962	332
1963	576
1964	824
1965	845
1966	451
1967	424

Field name: Mamm_thick

Mammary glands thickness was reported in centimetres. Methods documentation was not found. Mammary gland thickness measurements are from reference source 390 only.

Table 57. Number of mammary gland thickness records by year.

Year	# of Mamm_thick records
1962	122
1963	222
1964	337
1965	375
1966	193
1967	224

Field name: Mamm_cond

Condition of mammary glands was reported as one of 5 possible states. The first three definitions are from Pike (1956); the last two are assumptions based on the codes.

Table 58. Mammary gland condition codes and definitions.

Code	Definition	Description
L	lactating	Contained traces of milk
INV	involuted	Pregnant for 2nd or 3rd time but presently resting, or those that have started to swell in preparation for lactating or those that have begun to contract
NP	nonparous	Immature females, those pregnant for the first time, those that have ovulated but not become pregnant
P	parous?	Definition not found, codes as reported in reference source.
IM	immature?	Description not found, codes as reported in reference source.

Table 59. Number and type of mammary condition records by year.

Year	Mamm_cond				
	L	P	IM	NP	INV
1962	35		17	45	52
1963	37			77	69
1964	61			169	109
1965	48	3		180	133
1966	34			86	70
1967	84			39	98

5.5 TABLES: NEW COAL HARBOUR

There are 5 **New Coal Hbr** tables. These tables contain date of processing, length, morphometric, reproductive and age data for a subset of the Coal Harbour whale catch. The whales documented in these tables are also documented in **Station**, **Group** and **Individ**, however because it is not easy to link the existing data for one whale with the new additional data, the new data are kept separate in the **New Coal Hbr** tables. Using a link based on Year, Month, Day, Species, Sex and Length it was only possible to link about 25% of the **New Coal Hbr** records to their positional information in **Stations**. For the 25% of records, the Stn_id has been added. See Section 6.0 for more information about how to make additional links between the **New Coal Hbr** tables and other HWD tables.

Table 60. Number of records in New Coal Harbour by table and by year.

Year	Tables				
	New Coal Hbr 1949-58 Fin and Blue	New Coal Hbr 1949-58 Humpback	New Coal Hbr 1955-57 Sei and Sperm	New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	New Coal Hbr 1963, 65-67 all Species
1949	2	61			
1950	4	94			
1951	9	49			
1952	16	57			
1953	8	47			
1955	117	33	420		
1956	184	28	163		
1957	270	43	229		
1958	493	29			
1962				721	
1963					578
1964				880	
1965					847
1966					456
1967					496

Table 61. New Coal Harbour reference sources by year.

Year	Data Source (Refer_id #)								
	901	904	905	906	907	908	909	910	912
1949	•	•							
1950	•	•							
1951	•	•							
1952	•	•							
1953	•	•							
1955	•	•	•	•					•
1956	•	•	•	•					•
1957	•	•	•	•					•
1958	•	•	•						
1962					•		•	•	
1963						•			
1964						•	•	•	
1965						•			
1966						•			
1967						•			

Field name: Stn_id

See Section 5.1 or 4.0. Only records that were successfully linked will contain a Stn_id.

Field name: Whale_id

See Section 5.3 or 4.0. Only records that were successfully linked will contain a Whale_id

Field name: Day/Length in HWD

Where a record was successfully linked but there was a discrepancy in the day or length of the whale, this field will contain the length or the day reported in the HWD. See Section 4.0 for an explanation of these discrepancies.

Field name: Refer_id in HWD

Where a record was successfully linked by date or length, this field will contain the Refer_id corresponding to the data source in the HWD.

Field name: ID

ID is an automatic number assigned by MS Access that is unique to each record within a table. Among tables, the numbers are not unique.

Field name: Whale no.

For records from 1962 to 1967, these numbers are the whale numbers assigned to the whales as they were brought into the station for processing. They are the same numbers as Whale_nos found in **Individ** records originating from refer_id 390, except that they have been transformed to make every Whale no unique regardless of year. See Section 6.0 for details about how to use Whale no to link **New Coal Hbr** records to other HWD tables.

Field name: Day

Day is recorded as a two digit numeric value.

Field name: Month

Month is recorded as a two digit numeric value.

Field name: Year

Year is recorded as a four digit numeric value.

Field name: Species_id

A number code for the species of whale killed.

Table 62. Whale species codes and names.

Code	Common Name	Latin Name
1	blue whale	*Balaenoptera musculus*
2	fin whale	*Balaenoptera physalus*
3	humpback whale	*Megaptera novaeangliae*
4	sei whale	*Balaenoptera borealis*
5	sperm whale	*Physeter macrocephalus*
6	Baird's beaked whale	*Berardius bairdii*
7	gray whale	*Eschrichtius robustus*
8	Northern Right whale	*Eubalaena glacialis*
9	Baird's Beaked Whale	*Berardius bairdii*
0	minke whale	*Balaenoptera acutorostrata*

Field name: Sex

The sex of a whale is recorded as 1 (male) or 2 (female).

Field name: Length

The length of the whale reported in feet. Length was recorded to the nearest inch in **New Coal Hbr 1955-57 Sei and Sperm** table, but is recorded to the nearest foot in the other **New Coal Hbr** tables.

Field name: Condition

Reproductive condition of the whale.

Table 63. Whale reproductive condition codes.

Code	Reproductive condition
0	Not known
1	Immature male or female
2	Mature male or maturing female
3	Ovulating female
4	Primiparous-pregnant female
5	Multiparous-pregnant female
6	Lactating female
7	Resting female
9	Pregnant and/or lactating? Female
11	Pregnant-don't know if primi or multiparous

Table 64. Number of Reproductive condition records by New Coal Harbour table.

Table	Condition									
	0	1	2	3	4	5	6	7	9	11
New Coal Hbr 1949-58 Fin and Blue	594	221	0	19	1	0	54	69	1	144
New Coal Hbr 1949-58 Humpback	271	70	0	12	20	30	20	14	3	0
New Coal Hbr 1955-57 Sei and Sperm	649	22	5	9	1	2	31	25	0	68
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	277	390	313	17	36	122	86	94	266	0
New Coal Hbr 1963, 65-67 all Species	844	513	235	35	64	230	185	114	144	0

Field name: Foetus length

Foetus lengths were reported in inches.

Table 65. Number of foetus records by New Coal Harbour table.

Table	# of foetus records
New Coal Hbr 1949-58 Fin and Blue	135
New Coal Hbr 1949-58 Humpback	53
New Coal Hbr 1955-57 Sei and Sperm	70
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	36
New Coal Hbr 1963, 65-67 all Species	107

Field name: Foetus sex

The sex of the foetus is recorded as 1 (male) and 2 (female). Out of 401 foetus records, 397 have been identified to sex.

Field name: Stomach quantity

This is a numeric code denoting a qualitative measure of the amount of food in the stomach.

Table 66. Stomach quantity codes and definitions.

Code	Definition
0	Not examined
1	Empty
2	Slight
3	Moderate
4	Full

Table 67. Number of records in each New Coal Harbour table by stomach quantity code.

Table	Stomach quantity				
	0	1	2	3	4
New Coal Hbr 1949-58 Fin and Blue					
New Coal Hbr 1949-58 Humpback	196	72	5	57	111
New Coal Hbr 1955-57 Sei and Sperm	311	93	147	132	129
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	814	489	202	78	18
New Coal Hbr 1963, 65-67 all Species	365	1064	204	236	58

Field name: Stomach content

The stomach content is recorded as a numeric code representing the type of prey found. Stomach content were sometimes recorded where the quantity was not.

Table 68. Stomach content codes and definitions.

Code	Definition
0	Not known
1	Euphausiids or red feed
2	Copepods or orange feed
3	Squid
4	Saury
5	Herring
6	Other
7	Copepods and saury
8	Ragfish
9	Ragfish and squid

Table 69. Number of records in each New Coal Harbour table by stomach content code.

Table	Stomach content									
	0	1	2	3	4	5	6	7	8	9
New Coal Hbr 1949-58 Fin and Blue	5	279	14	0	0	0	1	0	0	0
New Coal Hbr 1949-58 Humpback	247	188	1	1	0	1	3	0	0	0
New Coal Hbr 1955-57 Sei and Sperm	352	67	38	127	1	13	46	0	14	154
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	709	91	156	32	12	0	36	2	15	50
New Coal Hbr 1963, 65-67 all Species	1404	285	234	223	0	2	148	0	9	72

Field name: Blubber thickness

The location on the body where the blubber was measured was sometimes documented as either the back or the side or was not documented at all in the original documents.

Table 70. Number of blubber thickness records in each New Coal Harbour table.

Table	# of blubber thickness records
New Coal Hbr 1949-58 Fin and Blue	833
New Coal Hbr 1949-58 Humpback	837
New Coal Hbr 1955-57 Sei and Sperm	720 (back), 766 (side)
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	1369
New Coal Hbr 1963, 65-67 all Species	2297

Field name: Diatoms

The amount of diatom coverage on the whale is recorded as a numerical value and is available for 3,490 of the whales.

Table 71. Diatoms code and definition.

Code	Definition
0	None
1	Slight
2	Moderate
3	Much
9	Not known

Table 72. Number of diatom records in each New Coal Harbour table.

Table	# of diatom records				
	0	1	2	3	9
New Coal Hbr 1949-58 Fin and Blue	0	0	0	0	0
New Coal Hbr 1949-58 Humpback	0	0	0	0	0
New Coal Hbr 1955-57 Sei and Sperm	327	111	138	93	143
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	703	133	22	13	8
New Coal Hbr 1963, 65-67 all Species	1506	201	44	48	0

Field name: Age specimen

The age specimen is recorded as a numeric value and is available for only some of the whales.

Table 73. Age specimen codes and definition.

Code	Definition
0	None
1	One plug
2	Two plugs
3	Baleen only
8	One tooth only
9	Two teeth

Table 74. Number of age specimen records in each New Coal Harbour table.

Table	# of age specimen records					
	0	1	2	3	8	9
New Coal Hbr 1949-58 Fin and Blue	0	0	0	0	0	0
New Coal Hbr 1949-58 Humpback	0	0	0	0	0	0
New Coal Hbr 1955-57 Sei and Sperm	36	0	0	0	536	4
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other						
New Coal Hbr 1963, 65-67 all Species	233	560	446	571	175	393

Field names: cornua L, cornua R

The length of left and right cornu were reported in centimeters. Methods were not found.

Table 75. Number of cornu records in each New Coal Harbour table.

Table	# of cornu records
New Coal Hbr 1949-58 Fin and Blue	0
New Coal Hbr 1949-58 Humpback	97
New Coal Hbr 1955-57 Sei and Sperm	107
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	0
New Coal Hbr 1963, 65-67 all Species	0

Field name: Follicle

The number of follicles were recorded for only some of the whales.

Table 76. Number of follicle records in each New Coal Harbour table.

Table	# of follicle records
New Coal Hbr 1949-58 Fin and Blue	272
New Coal Hbr 1949-58 Humpback	126
New Coal Hbr 1955-57 Sei and Sperm	115
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	517
New Coal Hbr 1963, 65-67 all Species	805

Field names: L testes or ovary, R testes or ovary

The left and right testes or ovary weight was recorded in kilograms.

Table 77. Number of teste/ovary weight records in each New Coal Harbour table.

Table	# of teste/ovary weight records	
	Teste weights	Ovary weights
New Coal Hbr 1949-58 Fin and Blue	222	347
New Coal Hbr 1949-58 Humpback	146	158
New Coal Hbr 1955-57 Sei and Sperm	388	141
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	727	590
New Coal Hbr 1963, 65-67 all Species	1197	991

Field name: Corpus luteum

The number of corpora lutea are recorded for some female whales in each table.

Table 78. Number of corpora lutea records in each New Coal Harbour table.

Table	# of corpora lutea records
New Coal Hbr 1949-58 Fin and Blue	202
New Coal Hbr 1949-58 Humpback	92
New Coal Hbr 1955-57 Sei and Sperm	101
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	0
New Coal Hbr 1963, 65-67 all Species	128

Field name: Mammary gland thickness

Mammary gland thickness was reported in centimeters. Methods documentation was not found.

Table 79. Number of mammary gland thickness records in New Coal Harbour tables.

Table	# of mammary gland thickness records
New Coal Hbr 1949-58 Fin and Blue	485
New Coal Hbr 1949-58 Humpback	165
New Coal Hbr 1955-57 Sei and Sperm	154
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	570
New Coal Hbr 1963, 65-67 all Species	1012

Field name: Mammary gland condition

The condition of the mammary glands was reported as one of 7 possible states. The descriptions are from Pike (1956).

Table 80. Mammary gland condition codes and definitions.

Code	Definition	Description
0	Not known	
1	Non-parous	Immature females, those pregnant for the first time, those that have ovulated but not become pregnant
2	Involuted	Pregnant for 2nd or 3rd time but presently resting or those that have started to swell in preparation for lactating or those that have begun to contract
3	Milky	Lactating
4	Slightly milky	Lactating
5	Moderate milk	Lactating
6	Much milk	Lactating

Table 81. Number of mammary gland records in each New Coal Harbour table by condition.

Table	Mammary gland condition						
	0	1	2	3	4	5	6
New Coal Hbr 1949-58 Fin and Blue	628	255	164	53	0	0	0
New Coal Hbr 1949-58 Humpback	273	87	59	22	0	0	0
New Coal Hbr 1955-57 Sei and Sperm	677	39	65	26	3	0	2
New Coal Hbr 1962-64 IBM Folders, B1, D1 and other	1015	280	193	27	43	19	24
New Coal Hbr 1963, 65-67 all Species	1392	397	387	5	22	57	117

6.0 GUIDE TO EXTRACTING DATA

Table 82 provides instructions to the user for linking and extracting specific data from the database. It is assumed that the user is familiar with MS Access.

Table 82. Guide to extracting data from the database

Whaling station	Type of data	Method to extract
Sechart	Catch by species, by month	Link[1] **Stations** and **Group** and filter for Whaling Station = S
Kyuquot	Catch by species, by month	Link[1] **Stations** and **Group** and filter for Whaling Station = K
	To select the length, sex, and foetus records	Link[1] **Stations** and **Individ** and filter for Whaling Station = K
	To select for records that give the location where caught	Link[1] **Stations** and **Group** and filter for Whaling Station = K and Utility =3, *or* link[1] **Stations** and **Individ** and filter for Whaling Station = K and Lat_deg > 0
Rose Harbour	Catch by species, by month	Link[1] **Stations** and **Group** and filter for Whaling Station = R
	Select the length, sex, and foetus records	Link[1] **Stations** and **Individ** and filter for Whaling Station = R
	Select for records that give the location where caught	Link[1] **Stations** and **Group** and filter for Whaling Station = R and Utility =3, *or* link[1] **Stations** and **Individ** and filter for Whaling Station = R and Lat_deg > 0
Naden Harbour	Catch by species, by month	Link[1] **Stations** and **Group** and filter for whaling station=N
	Select the length, sex, and foetus records	Link[1] **Stations** and **Individ** and filter for Whaling Station = N
	Select for records that give the location where caught	Link[1] **Stations** and **Group** and filter for Whaling Station = N and Utility =3, *or* link[1] **Stations** and **Individ** and filter for Whaling Station = N and Lat_deg > 0
Coal Harbour	Catch by species, by day	Link[1] **Stations** and **Group** and filter for Whaling Station = C and Utility not 1 and Year > 1947
	Catch by species, day, vessel, with sex, length, foetus details Subset of above that also has diet, blubber and mammary gland data	Link[1] **Stations** and **Individ** and filter for Whaling Station = C and Year > 1947 Link[1] **Stations , Individ and Stom_c** and filter for Whaling Station = C and Year > 1947
	Sightings of whales by day, by whaling vessel	Link[1] **Stations** and **Group** and filter for Whaling Station = C and Utility=1
Coal Harbour	Select for records that give the location where caught Only number and species of animals killed per location	Link[1] **Stations** and **Group** and filter for Whaling Station = C and Utility =3 or 4

Whaling station	Type of data	Method to extract
	Select for records that give the location where caught Sex, length and foetus details per location	Link[1] **Stations** and **Individ** and filter for Whaling Station = C and Lat_deg > 0 and Length > 0
	Select New Coal Hbr data for stand alone analysis	Select one or all of the 5 **New Coal Hbr** tables
	Select New Coal Hbr data linked to location of capture.	Select one or all of the 5 **New Coal Hbr** tables, use only those records that have Stn_id and Whale_id. Link[1] **Stations** and the **New Coal Hbr** table.
	Select New Coal Hbr data for a given year from 1962 to 1967and link to additional location of capture and other related records in HWD	Select one year in the range 1962 to 1967and extract the records for that year from the **New Coal Hbr** tables. The field Whale no in the **New Coal Hbr** tables and Whale_nos in the **Individ** records will be used to create the link. Create a merged file or a query between **Station** and **Individ** for the selected year. Next, using the table below, transform the Whale no as given in the **New Coal Hbr** records so that it is in the same form as in Whale_nos in Individ. Link the **New Coal Hbr** records and the **Individ** records using the corrected Whale no and the Whale_nos in **Individ**. Note, there will probably be a fair number of discrepancies between the two sources, the user should go through each record carefully.

Year	Whale no format in **New Coal Hbr** tables	corresponding Whale_nos in **Individ**
1967	B115	take off the "B"
1966	A115	take off the "A"
1965	5115	subtract 5000
1963	915	subtract 800
1962	115	no change
1950 (only 4 records)	615	subtract 500

[1] link using Stn_id

7.0 DATA ENTRY AND VERIFICATION

In 1987 data were compiled from archival sources onto data entry sheets. Data entry sheets were then checked against the source for transcription errors. Each data record was assigned a Stn_id number and then entered to the tables in the database. Once entered, the data were printed out from the database and check by hand against the data entry form for keypunch errors. Tests were also run on the database to check for data values outside of expected ranges. Despite these efforts some errors inevitably were not detected. A re-evaluation of the data records in 1999-2000 has resulted in the identification and correction of some previously undetected errors. All changes to individual records are documented in excel spreadsheets and these will remain with the Historical Whaling Database copy at the Pacific Biological Station in Nanaimo. In 1999 and 2000 when the new Coal Harbour data was added to the database. Records were added directly from the historical datasheets. Once entered, the data were printed out and checked by hand against the original data sheets for keypunch errors.

Multiple Sources: Discrepancies were found between sources from the 1908 to 1943 era in terms of the monthly catch. When this occurred the source used was the one that seemed to be the first documentation, rather than a later transcription.

8.0 DATA SOURCES

All data sources uncovered during the course of compiling the database in 1987and in 1999 are described here. Most of the sources are not published documents but collections of company correspondence and catch records that defy simple referencing. The following data source descriptions are sufficiently detailed to allow future researchers to readily locate and understand the scope of each source.

Sources are organized first by era (Coal Harbour era and 1908 to 1943 Era). Within era, sources that were actually used in the database are listed first followed by those sources uncovered but not used. An explanation in each source table under Notes about excluded data is given as to why a source was not used.

8.1 COAL HARBOUR REFERENCE SOURCES

Sources used from the Coal Harbour era

Data from these sources are found in the database, however, not all elements of a data source may have been used. Components that were actually used are identified with a ✔.

REFER_ID 76

Author	N/A	
Title	International Whaling Statistics 1947 -1952 (Vol.17-28)	
Publisher	Committee for Whaling Statistics, Oslo, Norway	
Location	Woodward Library, University of B.C. A photocopy is in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.	
Call No.	SH1 H9	
Description of reference format		Types of data
Table of whale foetuses from Coal Harbour measured in 1948✔, 1949, and 1950		Species, date when measured, length of mother, sex of foetus and length of foetus
Notes about excluded data	Refer_id 400 provided foetus data for 1949 and 1950	

REFER_ID 97

Author	N/A
Title	Coal Harbour -Catch Slips Tally Books and annotated Hydrographic Charts
Publisher	N/A
Location	J. Eilertsen, Coal Harbour, B.C., Photocopies are in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	N/A

Description of reference format	Types of data
1. International Whaling Statistics Forms with 1948 catch ✔	Species, length, sex, location of captures
2. Western Whaling Co. Season Chart for 1949	Monthly totals by species and number of days whaling
3. Catch Slips from 1958 from the Lavallee, Nahmint, Tahsis Chief (WW 4)	Species, number sighted, number killed, sex, no length, location of capture
Catch Slips from 1959 from the Polar V (WW 1), Globe VII (WW 2), Bouvet III (WW 3).	Species, number sighted, number killed, sex, no length, location of capture
*4. Hydrographic Charts for 1951 from the Nahmint, Polar V (WW 1), Globe VII (WW 2), Bouvet III (WW 3)	Species, no sex, no length, location of capture.
Hydrographic Charts for 1952	Location of capture and date.
Hydrographic Charts for 1953 and 1954	Location of capture, but not species.
Hydrographic Charts for 1955	Monthly totals by species, no sex, no length, no ship name, location of capture
5. Plant Tally Book. For 1952 for Nahmint, Polar V (WW 1), Globe VII (WW 2), Bouvet III (WW 3), Tahsis Chief (WW 4)	Location of capture
Plant Tally Books 1953	Length, sex, whale number
Plant Tally Books 1954	Length, sex, whale number
Plant Tally Books 1955	Length, sex, whale number

Notes about excluded data	Refer_id 390 and 400 provided the same detailed catch data for 1949 to 1967

** In 1987 photocopies of the hydrographic charts were not made, before the originals were sent back to J. Eilersten of Coal Harbour*

REFER_ ID 390

Author	N/A
Title	Catch Slips (1959 - 1962), Whale Catchers Logs (1963- 66), Plant Tally Books (2), (1963-1967) and Log Books (1955, 1956, 1958) -Coal Harbour B.C. Packers Ltd., Vancouver, B.C.
Publisher	N/A
Date	N/A
Location	Originals are in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	N/A

Description of reference format	Types of data
1. Copy of Ship's Log Book from the Polar V, 1955, 56 and 58	Date, species, locations of capture.
Ships Logbook from the WW 4 1964 marking trip	Date, species, location of sighting or marking
2. Whale Catcher's Log ✔ 1963 WW 4,5,6,7,8-all season complete 1964 WW 4,5,6,7,8 -all season complete, 1965 WW 4,5,6,7,8 -all season complete 1965 WW 4 (Mar. 11 to Apr. 3) Marking Trip, 1966 WW 6 (Mar. 1 to Apr. 1) Marking Trip, 1966 WW 4,5,6,7,8 -all season complete.	Date, location of capture of sighting, of marking, species, numbers of hours hunting, water temperature and sea conditions.
3. Catch Slips 1959 WW 4, Lavallee, Nahmint -all season complete. 1962 WW 1,2,3,4,5,6 -all season complete. ✔	Location of capture, species, sex, vessel, whale number.
4. Plant Tally Books ✔ Book 1 1963, 1964, 1965, Book 2 1966 and 1967	Date, location of capture, species, length, sex, foetuses, and production figures.
5. Specimen Data Cards - 1962 (Apr. 19 to Aug. 5) ✔	One card for each whale, about one third of the 1962 catch is represented. Data include: whale number, species , sex, length, stomach contents – whether full or empty and sometimes a statement about contents, blubber thickness, condition and thickness of mammary glands
6. Dept. of Fisheries Biological Data Tables, 1963, 1964, 1965, 1966, 1967. ✔	Contains information about stomach contents, blubber thickness, and condition and thickness of mammary glands.

Notes about excluded data	Refer_id 400 provided the same detailed catch data for all vessels operating in 1955, 1956 and 1958.

REFER_ID 400

Author	N/A
Title	International Whaling Commission Catch Statistics Datafile
Publisher	Electronic database of catch statistics maintained by the International Whaling Commission.
Location	A printout of the electronic records for Coal Harbour is in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	N/A

Description of reference format	Types of data
1. Flat file of catch details by whale from Coal Harbour 1949 to 1967. Used records for 1949 to 1959✔	Date, vessel, location of capture, species, sex, foetus length, foetus sex, and stomach contents

Sources used from the Coal Harbour era in the New Coal Harbour data tables

REFER_ID 901

Author	N/A
Title	Pike Collection file #25, Humps 1949-58, Catch Data Forms
Publisher	N/A
Location	Original documents are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Humpback whale catch data from 1949-58	whale number, date, length, testes/ovary weights, stomach quantity/contents, blubber thickness, fetus length/sex, follicle diameter, cornua, corpora lutea count, mammary gland thickness/condition, reproductive condition, corpora g/l/c1/c2

REFER_ID 904

Author	N/A
Title	Pike Collection File #4, Blue Whales Miscellaneous
Publisher	N/A
Location	Original documents are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Blue Whale catch data 1949 to 1958	whale number, date, length, testes/ovary weights, stomach quantity/contents, blubber thickness

REFER_ID 905

Author	N/A
Title	Pike Collection File #11, Fin whale specimen data
Publisher	N/A
Location	Original documents are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Fin whale catch data from 1955 to 1958	whale number, date, length, testes/ovary weights, # of corpora lutea, fetus length/sex, follicle diameter, cornua, mammary gland thickness/ condition, reproductive condition, blubber thickness, corpora g/l/c1/c2, stomach quantity/contents, baleen age

REFER_ID 906

Author	N/A
Title	Pike Collection Whale log sheets
Publisher	N/A
Location	Original documents are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Whale log sheets for all species from 1955 to 1957	whale number, date, species, sex, length, condition, stomach contents/quantity, blubber thickness, colour, diatom amounts, scars, parasites, baleen or teeth, cornu, follicle diameter, ovary/testes weights, corpora lutea, mammary gland thickness/condition

REFER_ID 907

Author	N/A
Title	Pike Collection File #93, Catch Data Forms 1962
Publisher	N/A
Location	Original documents are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Catch data form on all species from 1962	whale number, species, sex, length, time, vessel, blubber thickness, age specimens, mammary gland thickness/condition, testes/ovary weights, horns, stomach quantity/contents, foetus remarks

REFER_ID 908

Author	N/A
Title	Pike Collection File #6, Catch Data Tables 1963 to 1966
Publisher	N/A
Location	Photocopies are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Catch data tables on all species 1963 to 1966	whale number, date, time, vessel, sex, species, blubber thickness, testes/ovary weights, horn width, cut horn width, fetus sex/length, mammary gland thickness/condition, stomach quantity/condition, age specimens, follicle diameter, corpora lutea counts

REFER_ID 909

Author	N/A
Title	Pike Collection IBM data centre tables, 1962 revised D1 and B1
Publisher	N/A
Location	Originals are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Printout of electronic data for 1962	
1. List by length within condition within species--female	whale number, date, vessel, sex, species, length, fetus length/sex, ovary weights, horn width, mammary gland thickness/condition, corpora lutea counts, follicle diameter, specimen, condition
2. List by species--males	whale number, date, vessel, sex, species, length, blubber thickness, testes weights, specimen, condition

REFER_ID 910

Author	N/A
Title	Pike Collection IBM data centre tables, 1964 Whale (master)
Publisher	N/A
Location	Originals are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Printout of electronic data for 1964	
Whale data for all species	whale number, date, vessel, sex, species, fetus length/sex, ovary/testes weights, horn width, mammary gland thickness/condition, corpora lutea count, follicle, specimens, condition, cut horn width, blood specimen no., grid position no., lamination, ovulation, diatoms, stomach quantity/contents

REFER_ID 912

Author	N/A
Title	Pike Collection Log Sheets 1955 to 1957
Publisher	N/A
Location	Originals are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Log Sheets, all species	whale number, date, species, sex, condition, fetus, stomach contents, blubber, colour, diatoms, scars, parasites, baleen/teeth, cornu, follicles, ovary/testes weights, corpora lutea, mammary gland condition/thickness

Sources not used from the Coal Harbour era

REFER_ID 77

Author	N/A
Title	International Whaling Statistics 1959 -1963 (Vol.41-50)
Publisher	Committee for Whaling Statistics, Oslo, Norway
Location	Woodward Library, University of B.C. Photocopies are in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	SH1 H9

Description of reference format	Types of data
Table of whale foetuses from Coal Harbour measured in 1957, 1958, and 1959	Species, date when measured, length of mother, sex of foetus and length of foetus

Notes about excluded data	Refer_id 400 provided same data with more information about the whales.

REFER_ID 78

Author	N/A
Title	International Whaling Statistics 1962
Publisher	Committee for Whaling Statistics, Oslo, Norway
Location	Woodward Library, University of B.C. A photocopy is in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	SH1 H9

Description of reference format	Types of data
Table of whale foetuses from Coal Harbour measured in 1962	Species, date when measured, length of mother, sex of foetus and length of foetus

Notes about excluded data	Refer_id 390 and 907 provided the same data.

REFER_ID 86

Author	N/A
Title	International Whaling Statistics 1953 -1955 (Vol. 29-34)
Publisher	Committee for Whaling Statistics, Oslo, Norway
Location	Woodward Library, University of B.C. Photocopies are in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	SH1 H9

Description of reference format	Types of data
Table of whale foetuses from Coal Harbour measured in 1951, 1952, and 1953	Species, date when measured, length of mother, sex of foetus and length of foetus

Notes about excluded data	Refer_id 400 provided same data with more information about the whales.

REFER_ID 88

Author	N/A
Title	International Whaling Statistics 1956 -1958 (Vol. 35-39)
Publisher	Committee for Whaling Statistics, Oslo, Norway
Location	Woodward Library, University of B.C. Photocopies are in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	SH1 H9

Description of reference format	Types of data
Table of whale foetuses from Coal Harbour measured in 1954, 1955, and 1956	Species, date when measured, length of mother, sex of foetus and length of foetus

Notes about excluded data	Refer_id 400 provided same data with more information about the whales.

REFER_ID 363

Author	Pike G.C. and I.B. MacAskie
Title	Marine Mammals of British Columbia
Publisher	Fisheries Research Board of Canada Bulletin 171
Date	1969
Location	Libraries at the Institute of Ocean Sciences, Sidney, B.C. and the Pacific Biological Station, Nanaimo. B.C.
Call No.	500. 0 B1 82

Description of reference format	Types of data
1. Tables and references of incidental sightings, stranding and captured specimens	
2. Whale catches 1910 -1967	Annual catches by species and whaling station from annual reports of the Dept. of Fisheries, tabulated for Sechart, Kyuquot, Naden Harbour, Rose Harbour and Coal Harbour.

Notes about excluded data	These are summary tables and were not used because detailed information was available from other sources.

REFER_ID 391

Author	G. Pike
Title	Whaling Data Tables, Coal Harbour, British Columbia (1948 -1967)
Publisher	Unpublished manuscript of the Fisheries Research Board of Canada, Nanaimo, B.C..
Date	December 1967
Location	Originals in historical whaling data boxes at Pacific Biological Station, Nanaimo B.C.
Call No.	N/A

Description of reference format	Types of data
1. Whale Length Frequencies tables (1948-1967) 1962	By species, sex, month, year
2. Summary of whaling effort ✔	Whaling effort tables according to month, year, boat days, vessel, horsepower, tonnage, catches.

Notes about excluded data	Refer_id 390 and 400 provided better detailed catch data for 1948 – 1959 and 1963 to 1967. Refer_id 390 and 907 combined provided better detailed catch data for 1962

REFER_ID 911

Author	N/A
Title	Pike Collection File #134, Stomach content data cards
Publisher	N/A
Location	Originals are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
Stomach content data cards	whale number, date, species, sex, stomach quantity/contents

Notes about excluded data	These data are duplicated in other sources.

REFER_ID 903

Author	N/A
Title	Pike Collection files #6, 84, 85 ,Department of Fisheries and Oceans Whaling Reports
Publisher	N/A
Location	Original documents are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
1954 Catch Data Tables, File #6 1957 Catch Data Tables, File #84 1958 Catch Data Tables, File #85 1959 Catch Data Tables, File #85	date killed, time, species, marking, time hauled up, length, sex, stomach contents, locations

Notes about excluded data	These data are duplicated in other sources.

REFER_ID 902

Author	N/A
Title	Pike Collection files #103, #6, #157, whale data-all species tabularized,
Publisher	N/A
Location	Original documents are at the Pacific Biological Station, Nanaimo, B.C.
Call No.	N/A

Description of reference format	Types of data
1963 Catch Data Tables, File #109 1964 Catch Data Tables, File #6 1965 Catch Data Tables, File #157	whale number, date, vessel, sex, species, length, fetus length/sex, blubber thickness, testes/ovary weights, horn thickness, mammary gland thickness/condition, Corpora measurements (largest, recent, old), follicle diameter, race specimen collected, reproductive condition, corpora lutea.

Notes about excluded data	These data are duplicated in other sources.

8.2 1908 TO 1943 ERA REFERENCE SOURCES

Sources used from the 1908 to 1943 era

Data from these sources is found in the database, however, not all elements of a data source may have been used. Components that were actually used are identified with a ✔. An explanation in each source table under Notes about excluded data is given when a portion of a source was not used.

REFER_ID 73

Author	N/A
Title	Whaling Records 1908 -1923, , production records to 1928, Pacific Coast of North America, Consolidated Whaling Catch Statistics -Naden Harbour Rose Harbour Kyuquot, Sechart, Bay City, Akutan
Publisher	N/A
Date	N/A
Location	The original copy is at the Royal British Columbia Museum in Victoria. Ian McTaggart Cowan received the document in the 1940's from Allan Lemarguard who had been a station manager at Naden or Rose Harbour. A photocopied version in a black binder is in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	N/A

Description of reference format	Types of data
1. Sechart (1908-1917) ✔	Daily, monthly ,yearly totals by species and boat
2. Naden Harbour (1911-1923) ✔	Daily, monthly, yearly totals by species and boat
3. Naden Harbour (1923-1924)	Weekly catches by species
4. Naden Harbour (1922-1930)	Yearly totals by species
5. Kyuquot 1925	Daily, monthly, by species and by boat.
6. Kyuquot 1923, 1924	Weekly catches by species
7. Kyuquot 1922- 1924	Yearly totals by species
8. Kyuquot 1922 -1925	Annual production of whale oil by grade
9. Rose Harbour (1923-1924) 1923 ✔	Weekly catches by species
10. Rose Harbour (1923-1930)	Yearly totals by species

Notes about excluded data	Data for some years and stations in this source were not used because the same or better data was available from other sources.

REFER_ID 74

Author	N/A
Title	Analysis of Whaling Operations by Years at Kyuquot Seasons 1916 -1924 Inclusive
Publisher	N/A
Date	N/A
Location	B.C. Provincial Archives, Victoria, B.C. A photocopy is in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	

Description of reference format	Types of data
Table of whale catch, effort and production in a hand written table on a single legal size sheet ✔	• Monthly and yearly totals by species • Number of boat days, on station, • Number of whaling and non-whaling days, • Oil production, • Barrels of oil per whale, • Amount of fertiliser produced • Names of boats and times operating

REFER_ID 91

Author	N/A
Title	Catch Records and Telegrams 1937- 1941. Consilidated Whaling Corporation Ltd.
Publisher	N/A
Date	N/A
Location	W.S. Lagen Collection, Suzzallo Library, University of Washington.
Call No.	W.S. Lagen Collection. Accession # 2292, Box 2

Description of reference format	Types of data
1. Rose Harbour (1937 - 1938) ✔	Weekly, monthly , totals by species and boat
2. Naden Harbour (1937 –1938) ✔	Weekly, monthly, totals by species and boat
3. Telegrams	Partial information about weather conditions, boat activities, weekly totals by species, totals to date and manufactured products.

REFER_ID 94

Author	N/A
Title	Catch and Production Records 1908 -1923, Sechart, Bay City, Naden Harbour, Rose harbour, Kyuquot and Akutan.
Publisher	N/A
Date	N/A
Location	W.S. Lagen Collection, Suzzallo Library, University of Washington. Note this is a portion of the same document as reference 73. The records photocopied are those missing from reference 73. A copy is in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	W.S. Lagen Collection. Accession # 2292, Box 11

Description of reference format	Types of data
1. Rose Harbour (1910 -1919) ✔	Daily, monthly ,yearly totals by species and boat
2. Kyuquot (1908 –1915 ✔ and 1916 - 1919)	Daily, monthly, yearly totals by species and boat

REFER_ ID 98

Author	N/A
Title	Catch Records 1924 -1943 for Rose Harbour Naden Harbour and Kyuquot, Consolidated Whaling Corporation. W. Lagen Collection
Publisher	N/A
Date	N/A
Location	Suzzallo Library, University of Washington, Seattle, WA. A microfilm version is in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C.
Call No.	Accession #2292-4, Oversized Material

Description of reference format	Types of data
Large ledger sized bound books with hand written entries	
Rose Harbour 1924 ✔	Species, length, sex, boats, no location of captures
Rose Harbour 1925 to 1928 ✔	Species length sex boats, location of captures
Rose Harbour 1928 catch records by vessel, the SS White, SS Brown, SS Blue, SS Black ✔	Species length sex location of captures
Naden Harbour 1924, 1926 ✔	Species length sex boats location of captures
Naden Harbour 1925, 1927 ✔	Species length sex boats partial location of captures
Kyuquot 1924 ✔	Species length sex boats partial location of captures
Kyuquot 1925 ✔	Species length sex boats location of captures

REFER_ID 99

Author	N/A
Title	Report of Whales Caught and Production 1920 -1943, Consolidated Whaling Corporation Ltd., Canadian Stations. W. Lagen Collection
Publisher	N/A
Date	N/A
Location	Suzzallo Library, University of Washington, Seattle, WA. Photocopies are in historical whaling data boxes at Pacific Biological Station, Nanaimo. B.C.
Call No.	Accession #2292 19096 Oversized Material.

Description of reference format	Types of data
1 ledger and 1 letter sized books with hand written entries	
1920 Kyuquot – Apr. to Oct. 1920 Rose Harbour -Apr. to Oct. ✔ 1920 Naden Harbour - May to Oct. 1922 Kyuquot, Naden Harbour -June to Oct. 1923 Kyuquot, Naden Harbour -May to Nov. 1923 Rose Harbour-May to Nov. 1924 Kyuquot -June to Oct. 1924 Naden Harbour, Rose Harbour -May to Oct.	Weekly totals by species

1925 Kyuquot -May to Sept. 1925 Naden Harbour, Rose Harbour -May to Oct. 1926 Rose Harbour -May to Oct. 1926 Naden Harbour -June to Oct. 1927 Rose Harbour -May to Oct. 1927 Naden Harbour -June to Oct. 1928 Rose Harbour -May to Oct. ✔ 1928 Naden Harbour -June to Oct. ✔ 1929 Rose Harbour -May to Sept. ✔ 1929 Naden Harbour -June to Oct. ✔ 1930 Rose Harbour -May to Aug. ✔ 1930 Naden Harbour -June to Aug. ✔ 1933 Rose Harbour -June to Aug. ✔ 1934 Rose Harbour -Apr. to Aug. ✔ 1934 Naden Harbour -May to Aug. ✔ 1935 Rose Harbour -May to Sept. ✔ 1936 Rose Harbour -Apr. to Sept. ✔ 1936 Naden Harbour -May to Sept. ✔ 1937 Rose Harbour -Apr. to Sept. 1937 Naden Harbour -May to Sept. 1938 Rose Harbour -Apr. to Aug. ✔ 1938 Naden Harbour -Apr. to Sept. 1940 Rose Harbour -May to Aug. ✔ 1941 Rose Harbour -May to Oct. ✔ 1941 Naden Harbour -May to Oct. ✔ 1942 Rose Harbour -May to Sept. ✔ 1943 Rose Harbour -July to Oct. ✔	Weekly totals by species
Notes about excluded data	Data for some years and stations in this source were not used because the same or better data was available from other sources.

Sources not used from the 1908 to 1943 era

REFER_ID 89

Author	N/A
Title	Consolidated Whaling Corporation Ltd. Gunner's Reports 1928 -1942 (Vol. 8-11)
Publisher	N/A
Date	N/A
Location	B.C. Provincial Archives, Victoria, B.C.
Call No.	Add MSS: 21

Description of reference format	Types of data
1. Vol. 8 Gunner's Reports SS GREEN 1928 and 1929 Naden Harbour	Date, species, no location of captures indicated
1936 Naden Harbour -	Date, location of captures, species
2. Vol. 9 Gunner's Reports SS GREEN 1930 Naden Harbour	Date, species, location of captures
1934 Rose Harbour -	Date, species, location of captures
3. Vol.10 Gunner's Reports SS GREEN 1937 and 1938· Naden Harbour	Date, species, location of captures
4. Vol.11 Gunner's Reports SS WHITE 1941 and 1942 Rose Harbour	Date, species, location of captures

Notes about excluded data	Refer_ids 98 and 99 provided a complete record of catch by location for these years, but see Section 9.0 of this report.

REFER_ID 90

Author	N/A	
Title	General Correspondence 1934 Consolidated Whaling Corporation Ltd., W. Lagen Collection	
Publisher	N/A	
Date	N/A	
Location	Suzzallo Library University of Washington, Seattle WA. Photocopies are in the historical whaling data source boxes at the Pacific Biological Station, Nanaimo. B.C	
Call No.	Accession #2292, Box 1	
Description of reference format		Types of data
Correspondence for 1934 from Naden Harbour and Rose Harbour to office in Seattle.		• Yearly totals by species • Partial information on weather conditions whale production • Number of species caught • Totals to date • Boat activities
Notes about excluded data	Refer_ids, 98 and 99 provided a better record of catch.	

REFER_ID 374

Author	N/A	
Title	Pilot Log Books Chief Officer's Log Books, Engineer's Log Books for Rose Harbour and Naden Harbour (1917, 1929-1943), Consolidated Whaling Corporation Ltd.	
Publisher	N/A	
Date	N/A	
Location	B.C. Provincial Archives, Victoria, B.C.	
Note	This source is **not** a complete source for catch records, but there is anecdotal information about daily events, and locations where whaling.	
Call No.	Add MSS 21: Vol. 12-18	
Description of reference format		Types of data
Vol. 12. SS BLACK (1935-1938)		
1936 Naden Harbour Apr. 23 to Sept.15		Date, species
1937 Naden Harbour -May 8 to Sept.14		Date, species
1938 Naden Harbour -Apr. 20 to July 13		Date, species, location of capture
Vol. 13. SS BLUE 1917) (1935-1942)		
1917 Rose Harbour -Apr. 14 to Oct. 27		Date, species, location of capture
1935 Rose Harbour May 10 to Sept.18		Date, species, location of capture
1936 Rose Harbour -Apr.2 to Aug. 21		Date, species, location of capture
1038 Rose Harbour -May 2 to Sept.2		Date, species, location of capture
1942 Rose Harbour -May 8 to Sept.25		Date, species, location of capture
1943 Rose Harbour -June 13 to Oct. 12		Date, species, location of capture
Vol. 14: SS BROWN (1930-1943)		

1930 Rose Harbour -May 1 to Sept. 20	Date, species, location of capture
1933 Rose Harbour -June 2 to Aug. 28	Date, species, location of capture
1934 Rose Harbour -Apr.21 to Sept. 24	Date, species, location of capture
1935 Rose Harbour -May 2 to Sept. 21	Date, species, location of capture
1937 Naden Harbour -May 15 to Sept.18	Date, species, location of capture
1938 Naden Harbour -Apr. 20 to Sept.16	Date, species, location of capture
1941 Naden Harbour -May 15 to Sept.18	Date, species, location of capture
1943 Rose Harbour -June 11 to Oct. 12	Date, species, location of capture
Vol. 16. SS GREEN (1929) (1933-1941)	
1929 Naden Harbour -May 24 to July 29	Date, species, location of capture
1933 Rose Harbour -June 2 to Aug. 28	Date, species, location of capture
1936 Naden Harbour-Apr.23 to Sept.16	Date, species
1937 Naden Harbour -May 8 to Sept. 14	Date, species
1941 Naden Harbour -July 7 to Aug. 24	Date, species
Vol. 17. SS WHITE (1930-1940)	
1930 Rose Harbour -May 1 to July 25	Date, species, location of capture
1930 Rose Harbour -July 22 to Sept. 19	Date, species, location of capture
1933 Rose Harbour -June 1 to Aug. 28	Date, species, location of capture
1933 Rose Harbour -June 2 to Aug. 29	Date, species, location of capture
1935 Rose Harbour -Apr. 30 to Sept. 18	Date, species, location of capture
1940 Rose Harbour -May 1 to Sept. 2	Date, species, location of capture
Vol. 18. SS WILLIAM GRANT (1930) (1933-1942)	
1930 Naden Harbour -May 25 to Sept.8	Date, species, location of capture
1933 Rose Harbour -June 2 to Aug. 29	Date, species, location of capture
1935 Rose Harbour -May 2 to Sept. 25	Date, species, location of capture
1937 Rose Harbour -Apr. 18 to Sept. 17	Date, species, location of capture
1938 Rose Harbour -Apr. 28 to Aug. 21	Date, species, location of capture
1940 Rose Harbour -Apr. 27 to Sept.2	Date, species, location of capture
1942 Rose Harbour -May 12 to Sept. 25	Date, species, location of capture
Notes about excluded data	Refer_id 98, 99 and 91 provided a more complete record of the catch, but see Section 9.0 of this report.

9.0 DATA NOT INCLUDED IN THE HWD

The following is a list of data that were not included in the HWD.

Description of data type	Reference source
Sechart, began operations in 1905. We could not locate any records of the numbers of whales killed in the 1905, 1906, and 1907 seasons.	none
Page's Lagoon, in Nanaimo operated from the fall of 1907 to 1909. Catch records were not located.	none
From the collection of pilot log books and Gunner's log books at the B.C. Archives that date from 1917 and 1928 to 1942, the location of captures, dates of capture and species killed were compiled. The records were entered to the **Group** table in the database, but not the table **Stations**. The result is that these data are only partially entered and are not useable because the *station* information is missing. It would be worth entering the station records (references 374 and 89) because they give an account, though not complete, of where whales were caught. The data are compiled on the original data sheets compiled in 1987[1].	374, 89
In the collection of pilot logbooks and Gunner's logbooks at the B.C. Archives that date from 1917 and 1928 to 1942, there is information about whaling activities. Though not recorded consistently, there is information about when they whaled, when they did not hunt because the weather was poor or the ship had broken down as well as some interesting accounts of the actual hunts.	374, 89
Among the correspondence in the W.S. Lagen Collection at the Suzzallo library, there are letters and telegrams the give weather information and the number of days spent whaling.	90
The length of the whaling season and the number and names of boats that operated, were not included in the database, but are presented in this report in Section 2.0.	see Section 2.0
The amount of whale oil, spermaceti oil, and bone meal that was produced each week, or month or season can be gleaned from the W.S. Lagen collection and from reference source 74 for the 1908 to 1943 period. There is also information on the cost of operations, insurance claims, requests for supplies.	74, 90
From the Coal Harbour era, 1948 to 1967, only sightings associated with kills were included in the database. However, there are many more sightings in the logbooks of reference source 390 that may be of interest. Associated with these sightings from the 1960's are water temperature recordings. The logbooks also report the amount of time they spent travelling versus chasing a whale and the general weather conditions.[1]	390
In the database table **Stations**, where the location of capture given in latitude and longitude coordinates is coded with a "A" or a "G" under Loca_type, the position is approximate and was transformed to coordinates from a distance and heading description such as "25miles SW of Anthony Island". The actual distance and bearing description is not in the database, although it is on the data entry sheets.[1]	98, 99
There are more marking trip sighting records with Stn_ids 7325 to 7391 that are in **Group** but not in **Stations**, that could be re-entered.The **Station** information is already on data entry sheets form 1987. There are also gray whale records from 1971 Marking Trip in reference 390 that were not entered.[1]	390

[1] The original data entry forms as well as the source data are at the Pacific Biological Station, Nanaimo, B.C.

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The compilation of B.C. historical whaling records was proposed by John Ford in 1987. The project was carried out by Linda Nichol, Allison Peacock, Ricoh Gurney, and Linda Michaluk at ESL Environmental Sciences Ltd. The new Coal Harbour data was entered and verified by Rowena Flinn and Ed Gregr in 1999-2000. Peter Wainwright assisted with database design and data management in 1987. The late Michael Bigg provided access to historical data at the Pacific Biological Station. J. Eilertsen of Coal Harbour kindly made available his collection of Coal Harbour records. Ian Perry and Jim Boutillier of the Pacific Biological Station initated and provided funding for this report. Funds were also kindly provided by Tom Tomasic of Parks Canada.

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* Index entries marked with an asterisk, are fields that are described in a previous table.

APPENDIX

Notes about Stomach contents: Records from reference sources 97 for 1948 report "red feed" or "krill" as do reference source 400 records for 1949 to 1959. These records were all coded in the database as EU. A DFO publication by Roderick Haig-Brown that dates from the 1950's (the same era) refers to salmon feeding on "red feed" and that red feed was primarily *Thysanoessa spinifera*, a species of euphausiid.